

**FEDERAL AVIATION ADMINISTRATION  
AIRWORTHINESS DIRECTIVES**

**LARGE AIRCRAFT  
BIWEEKLY 2018-22**

*10/15/2018 - 10/28/2018*



Federal Aviation Administration  
Continued Operational Safety Policy Section, AIR-141  
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# LARGE AIRCRAFT

AD No.	Information	Manufacturer	Applicability
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Information Key: E – Emergency; COR – Correction; S – Supersedes; R – Replaces, A – Affects

## Biweekly 2018-01

2017-26-06		Rolls-Royce Corporation	AE 3007A, AE 3007A1, AE 3007A1/1, AE 3007A1/2, AE 3007A1/3, AE 3007A1P, AE 3007A1E, AE 3007A3, AE 3007C and 3007C1 turbofan engines
2017-26-07		The Boeing Company	757-200, -200CB, and -300 series airplanes
2017-26-08		ATR-GIE Avions de Transport Régional	ATR42-500 and ATR72-212A airplanes
2017-26-09		ATR-GIE Avions de Transport Régional	ATR42-500 and ATR72-212A airplanes
2017-26-10		The Boeing Company	757-200, -200PF, -200CB, and -300 series airplanes,
2018-01-01		The Boeing Company	MD-11 and MD-11F airplanes
2018-01-02	R 2017-02-03	The Boeing Company	767-200, -300, and -400ER series airplanes
2018-01-03		Airbus	A300, A310 airplanes
2018-01-04	R 2011-04-05	Airbus	A340 airplanes
2018-01-05		Fokker Services B.V.	F28 Mark 0070 and 0100 airplanes
2018-01-06		Fokker Services B.V.	F28 Mark 0070 and 0100 airplanes

## Biweekly 2018-02

2018-01-07		Airbus	A300 B4-601, B4-603, B4-620, B4-622, B4-605R, B4-622R, F4-605R, F4-622R, and C4-605R Variant F airplanes
2018-01-08		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-01-09	R 95-25-02	Fokker Services B.V.	F28 Mark 0100 series airplanes
2018-01-10	R 2011-14-10	Airbus	A330-342 airplanes
2018-01-11		Airbus	A319-115 and A319-133 airplanes
2018-02-03		Fokker Services B.V.	F28 Mark 0070 and Mark 0100 series airplanes
2018-02-06		Dassault Aviation	FALCON 7X, FALCON 2000EX, FALCON 900EX airplanes

## Biweekly 2018-03

2018-02-09	R 2008-06-20 R1	Fokker Services B.V.	F28 Mark 1000, 2000, 3000, and 4000 airplanes
2018-02-10		Pratt & Whitney Division	PW4074, PW4074D, PW4077, PW4077D, PW4084D, PW4090, and PW4090-3 turbofan engines
2018-02-11		Airbus	A330-301, -321, -322 and A330-342 airplanes
2018-02-12	R 2016-02-01	Airbus	A320-211, -212, and -231 airplanes
2018-02-15	S 2007-08-06	British Aerospace Regional Aircraft	HP.137 Jetstream Mk.1, Jetstream Series 200 and 3101, and Jetstream Model 3201 airplanes
2018-02-16		Bombardier, Inc.	DHC-8-400, -401, and -402 airplanes

## Biweekly 2018-04

2018-02-17	R 2012-12-12 R 2013-16-26	Airbus	A330, A340 airplanes
2018-02-18		Airbus	A318, A319, A320, A321 airplanes
2018-02-20		The Boeing Company	777-200, -200LR, -300, and -300ER series airplanes
2018-03-02		328 Support Services GmbH	328-300 airplanes
2018-03-04		Rosemount Aerospace, Inc.	Model 851AK pitot probes
2018-03-06	R 2015-02-18	Airbus	A330-201, -202, -203, -301, -302, and -303 airplanes
2018-03-07		Airbus	A330-202, -203, -223, and -243; A340-211, -212, -311, and -313 airplanes
2018-03-08	R 2005-19-28	Airbus	A330-301, -321, -322, and -342; A340-211, -212, -213, -311, -312, and -313 airplanes
2018-03-09		Airbus	A321-211 and -231 airplanes
2018-03-10		The Boeing Company	757-300 series airplanes
2018-03-11		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-03-12		Airbus	A318, A319, A320, A321 airplanes
2018-03-13		General Electric Company	CT7-5A2, CT7-5A3, CT7-7A, CT7-7A1, CT7-9B, CT7-9B1, CT7-9B2, CT7-9C and CT7-9C3 model turboprop engines
2018-03-19		Dassault Aviation	FALCON 7X airplanes,
2018-03-20		Airbus	A330-301, -302, -303, -321, -322, -323, -341, -342, and -343 airplanes
2018-03-21		Airbus	A330-202, -203, -223, and -243 airplanes
2018-03-22		GE Aviation Czech s.r.o.	M601D-11, M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F turboprop engines
2018-04-01		Airbus	A320-271N, A321-271N, and A321-272N airplanes

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AD No.	Information	Manufacturer	Applicability
Information Key: E – Emergency; COR – Correction; S – Supersedes; R – Replaces, A – Affects			
<b>Biweekly 2018-05</b>			
2017-06-06	R 2012-22-15	Fokker Services B.V.	F28 Mark 0070 and Mark 0100 airplanes
2018-04-03		Fokker Services B.V.	F28 Mark 0100 airplanes
2018-04-04		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-04-05		Airbus	A319-112, A319-115, A320-214, A320-232, and A321-211 airplanes
2018-04-06	R 2012-12-05	The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-04-07		The Boeing Company	747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes
2018-04-08		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
<b>Biweekly 2018-06</b>			
2018-02-17	R 2012-12-12	Airbus	A330, A340 airplanes
2018-04-12		The Boeing Company	737-100, -200, -200C, -300, -400, -500 series airplanes
2018-04-13		Honeywell International Inc.	AS907-1-1A model turbofan engines
2018-05-04		Airbus	A318, A319, A320, A321 airplanes
2018-05-05		Dassault Aviation	MYSTERE-FALCON 900, FALCON 900EX, FALCON 2000, and FALCON 2000EX airplanes
2018-05-06	R 2016-09-12	The Boeing Company	787-8 and 787-9 airplanes
2018-05-07		The Boeing Company	787-8 and 787-9 airplanes
2018-05-11		Airbus	A320-214, -251N, and -271N airplanes
2018-06-03	R 2009-18-16	Airbus	A310-203, -204, -221, -222, -304, -322, -324 and -325 airplanes
2018-06-06		Bombardier, Inc.	CL-600-2B16 (CL-604 Variant) airplanes
2018-06-08		The Boeing Company	757-200 series airplanes
<b>Biweekly 2018-07</b>			
2018-06-01		Airbus	A318, A319, A320, A321 airplanes
2018-06-02		Bombardier, Inc.	CL-600-2B19, -2C10, -2D15, -2D24 airplanes
2018-06-04		Airbus	A318, A319, A320, A321 airplanes
2018-06-05		The Boeing Company	737-300 and -500 series airplanes
2018-06-07		The Boeing Company	757-200, -200CB, and -300 series airplanes
<b>Biweekly 2018-08</b>			
2018-07-05		General Electric Company	CF6-80A, -80A1, -80A2, and -80A3 turbofan engines
2018-07-06		The Boeing Company	747-8 series airplanes
2018-07-07		Dassault Aviation	FAN JET FALCON, FAN JET FALCON SERIES D, E, F, and G; MYSTERE-FALCON 20-C5, 20-D5, 20-E5, and 20-F5 airplanes
2018-07-09		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-07-10		Embraer S.A.	EMB-500 and EMB-505 airplanes
2018-07-11		Fokker Services B.V.	F28 Mark 0100 airplanes
2018-07-12		Airbus	A350-941 airplanes
<b>Biweekly 2018-09</b>			
2018-07-18	R 2015-19-12	The Boeing Company	767-200, -300, -300F, and -400ER series airplanes
2018-07-19		The Boeing Company	787-8 and 787-9 airplanes
2018-07-20	R 2014-03-07	The Boeing Company	MD-11 and MD-11F airplanes
2018-07-21	R 2005-12-16	Fokker Services B.V.	F28 Mark 0100 airplanes
2018-08-02		Rolls-Royce plc	Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 turbofan engines
2018-08-03		The Boeing Company	787-8 and 787-9 airplanes
2018-09-05		The Boeing Company	787-8 and 787-9 airplanes
2018-09-51		CFM International S.A.	CFM56-7B engines
<b>Biweekly 2018-10</b>			
2018-09-01		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-09-02	R 99-23-16	Airbus	A330 and A340 airplanes
2018-09-03	R 2009-11-08	Airbus	A330-202, -223, -243, -301, -322, and -342 airplanes
2018-09-04		Gulfstream Aerospace Corporation	G-IV, GIV-X airplanes

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2018-09-07		Rolls-Royce plc	Viper Mk. 601-22 engines
2018-09-08		The Boeing Company	737-200, -300, -400, and -500 series airplanes
2018-09-09		Airbus	A318, A319, A320, and A321 airplanes
2018-09-10		CFM International S.A.	CFM56-7B engines
2018-09-11		Airbus	A330 and A340 airplanes
2018-09-15	R 2016-25-18	Bombardier, Inc.	BD-700-1A10 and BD-700-1A11 airplanes
2018-09-16	R 2015-15-13	Airbus	A319, A320, and A321 airplanes
2018-10-02		The Boeing Company	787-8 airplanes
<b>Biweekly 2018-11</b>			
2018-09-09	Republication	Airbus	A318, A319, A320, and A321 airplanes
2018-09-12		The Boeing Company	747-200B, 747-300, and 747-400 series airplanes
2018-09-13		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-09-14	R 2016-11-02	Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, and -2E25 airplanes
2018-09-17		Bombardier, Inc.	CL-600-1A11, -2A12, and -2B16 airplanes
2018-09-51		CFM International S.A.	CFM56-7B engines
2018-10-05	R 2016-23-01	Airbus	A310-203, -204, -221, -222, -304, -322, -324, and -325 airplanes
2018-10-08	R 2016-09-05	The Boeing Company	717-200 airplanes
2018-10-11	R 2018-09-10	CFM International S.A.	CFM56-7B engines
2018-10-12		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-11-02		Lockheed Martin Corporation/Lockheed Martin Aeronautics Company	188A and 188C airplanes; and P3A, P-3A, and P3B airplanes
<b>Biweekly 2018-12</b>			
2018-11-04		Aircraft Industries a.s.	L 410 UVP-E20 and L 410 UVP-E20 CARGO airplanes
2018-11-06		Airbus	A310-203, -221, -222, -304, -322, -324, and -325 airplanes
2018-11-07		Saab AB, Saab Aeronautics	SAAB 2000 airplanes
2018-11-08		The Boeing Company	767-200 and -300 series airplanes
2018-11-09	R 2014-02-01	Bombardier, Inc.	CL-600-2C10, -2D15, -2D24 airplanes
2018-11-10	R 2017-01-07	Dassault Aviation	FAN JET FALCON, FAN JET FALCON SERIES C, D, E, F, and G; MYSTERE-FALCON 200, 20-C5, 20-D5, 20-E5, 20-F5, and 50 airplanes
2018-11-11		Airbus	A350-941 airplanes
2018-11-12		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-11-13		The Boeing Company	787-8 airplanes
2018-11-14		The Boeing Company	767-300 and -300F series airplanes
2018-11-15		Airbus	A320-271N; A321-271N, -271NX, -272N and -272NX airplanes
2018-12-02		Airbus	A318, A319, A320, A321 airplanes
2018-12-04		The Boeing Company	777-300ER series airplanes
2018-12-05		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
<b>Biweekly 2018-13</b>			
2016-19-13	COR	Dassault Aviation	See AD; FALCON 2000 was originally missing from the applicability table in AD Biweekly 2016-22.
2018-09-04	COR	Gulfstream Aerospace Corporation	G-IV, GIV-X airplanes
2018-11-16		Engine Alliance	GP7270, GP7272, and GP7277 model turbofan engines
2018-12-06		The Boeing Company	787-8 and 787-9 airplanes
2018-12-07	R 2015-24-06	Gulfstream Aerospace Corporation	GVI airplanes
2018-13-02		Pratt & Whitney Division	PW4052, PW4056, PW4060, PW4062, PW4062A, PW4152, PW4156A, PW4158, PW4460, and PW4462 turbofan engine models
2018-13-04		Bombardier, Inc.	BD-100-1A10 airplanes
<b>Biweekly 2018-14</b>			
2018-13-03		International Aero Engines	PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM turbofan engines

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### Biweekly 2018-15

2018-12-08	R 2017-07-07	Airbus	A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343; A340-212, -213, -312, and -313 airplanes	
2018-13-06	R 2016-01-11	The Boeing Company	767-300 and -300F series airplanes	
2018-13-08		Airbus	A318, A319, A320, A321 airplanes	
2018-14-02		The Boeing Company	777-200, -200LR, -300, and -300ER series airplanes	
2018-14-03		Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes	
2018-14-04		Airbus	A330, A340 airplanes	
2018-14-05		Bombardier, Inc.	BD-100-1A10 airplanes	
2018-14-08		A 2016-11-03	The Boeing Company	777-200LR series airplanes
2018-14-09		Airbus	A318, A319, A320, A321 airplanes	
2018-14-11		ATR-GIE Avions de Transport Régional	ATR72-101, -102, -201, -202, -211, -212, and -212A airplanes	

### Biweekly 2018-16

2018-07-04		The Boeing Company	DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), DC-9-87 (MD-87), MD-88, and MD-90-30 airplanes
2018-13-07		Rolls-Royce plc	Trent 1000-A, Trent 1000-C, Trent 1000-D, Trent 1000-E, Trent 1000-G, and Trent 1000-H turbofan engines
2018-14-12		General Electric Company	GEnx-1B64, -1B64/P1, -1B64/P2, -1B67, -1B67/P1, -1B67/P2, -1B70, -1B70/75/P1, -1B70/75/P2, -1B70/P1, -1B70/P2, -1B70C/P1, -1B70C/P2, -1B74/75/P1, and -1B74/75/P2 engines
2018-15-01		Rolls-Royce plc	Trent 1000-A, Trent 1000-C, Trent 1000-D, Trent 1000-E, Trent 1000-G, Trent 1000-H, Trent 1000-A2, Trent 1000-C2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2 engines
2018-15-03		The Boeing Company	787 series airplanes
2018-15-05		Airbus SAS	A319-115, -132, and -133 airplanes; and Model A320-214, -216, -232, -233, -251N, and -271N airplanes
2018-16-05		The Boeing Company	757-200, -200PF, -200CB, and -300 series airplanes
2018-16-07		General Electric Company	GEnx-1B54, -1B58, -1B64, -1B67, -1B70, -1B54/P1, -1B58/P1, -1B64/P1, -1B67/P1, -1B70/P1, -1B54/P2, -1B58/P2, -1B64/P2, -1B67/P2, -1B70/P2, -1B70C/P1, -1B70/72/P1, -1B70/75/P1, -1B74/75/P1, -1B75/P1, -1B70C/P2, -1B70/72/P2, -1B70/75/P2, -1B74/75/P2, -1B75/P2, -1B76/P2, -1B76A/P2, -1B78/P2, -2B67, -2B67B, and -2B67/P turbofan engines

### Biweekly 2018-17

2018-16-02		Airbus SAS	A318, A319, A320, and A321 airplanes
2018-16-03		Airbus SAS	A319-133 and A321-232 airplanes
2018-16-04		Airbus SAS	A318, A319, A320, and A321 airplanes
2018-16-06		The Boeing Company	747-100, -100B, -100B SUD, -200B, -200C, -200F, -300, -400, -400D, 747SP, and 747SR series; 747-8 airplanes
2018-16-12		Airbus	A319, A320, and A321 airplanes
2018-17-02		Bombardier, Inc.	CL-600-1A11, -2A12, -2B16 airplanes
2018-17-03		The Boeing Company	787-8 and 787-9 airplanes
2018-17-04		Roll-Royce Corporation	AE 2100D2A, AE 2100D3 turboprop engines; AE 3007A2 turbofan engines
2018-17-05		Airbus SAS	A350-941 and -1041 airplanes
2018-17-06		Fokker Services B.V.	F28 Mark 0070 and 0100 airplanes
2018-17-07	R 2017-24-01	ATR-GIE Avions de Transport Régional	ATR42-500 and ATR72-212A airplanes

### Biweekly 2018-18

2018-14-10	R 2017-12-03	Pratt & Whitney Division	PW2037, PW2037M, and PW2040 turbofan engines
2018-15-04		General Electric Company	CF6-80 series engines
2018-16-10		GE Aviation Czech s.r.o.	H80-200 turboprop engines
2018-17-09		Bombardier, Inc.	DHC-8-400, -401, and -402 airplanes
2018-17-10		R 2017-15-17	Airbus SAS

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2018-17-16		Airbus SAS	A300, A310 airplanes
2018-17-17		Bombardier, Inc.	DHC-8-400, -401, and -402 airplanes
2018-17-18	R 2015-02-17	Airbus SAS	A330 airplanes
2018-17-19		Airbus SAS	A318, A319, A320, A321 airplanes
2018-17-20		The Boeing Company	727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes
2018-17-21		Airbus SAS	A318, A319, A320, A321 airplanes
2018-17-22		Airbus SAS	A319-115 and -132, and A320-214, -216, -232, and -233 airplanes
2018-17-23		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-18-04		Airbus SAS	A350-941 and -1041 airplanes
2018-18-05		ATR-GIE Avions de Transport Régional	ATR42-200, -300, and -320 airplanes
<b>Biweekly 2018-19</b>			
2018-17-12		General Electric Company	GE90-76B, GE90-77B, GE90-85B, GE90-90B, and GE90-94B turbofan engines
2018-17-13		Rolls-Royce Deutschland Ltd & Co KG	Tay 620-15 turbofan engines
2018-17-24		Airbus SAS	A350-941 airplanes
2018-17-25		Airbus SAS	A350-941 and -1041 airplanes
2018-18-03		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-18-06	R 2013-02-04	Rolls-Royce plc	RB211-Trent 970-84, RB211-Trent 970B-84, RB211-Trent 972-84, RB211-Trent 972B-84, RB211-Trent 977-84, RB211-Trent 977B-84, and RB211-Trent 980-84 turbofan engines
2018-18-07		The Boeing Company	757-200, -200PF, -200CB, and -300 series airplanes
2018-18-08		Airbus SAS	A330, A340 airplanes
2018-18-09		Airbus Defense and Space S.A.	CN-235, CN-235-100, CN-235-200, CN-235-300, and C-295 airplanes
2018-18-10		Airbus Defense and Space S.A.	CN-235, CN-235-100, CN-235-200, CN-235-300, and C-295 airplanes
2018-18-13		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-18-14		Rolls-Royce Deutschland Ltd & Co KG	BR700-710A2-20, BR700-710C4-11 turbofan engines
2018-18-16	R 2018-12-08	Airbus SAS	A330, A340 airplanes
2018-18-17	R 2016-13-06	Saab AB, Saab Aeronautics	340A (SAAB/SF340A), 340B airplanes
<b>Biweekly 2018-20</b>			
2018-16-09		The Boeing Company Airplanes	737-100, -200, -200C, -300, -400, and -500
2018-16-13		Zodiac Seats France	Note: This AD was inadvertently left out of BW 2018-17
2018-18-15		Rolls-Royce plc	537-Series Cabin Attendant Seats
2018-18-18		Airbus SAS	RB211-Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17 and 895-17 turbofan engines
2018-18-19		Airbus SAS	A300 B2-1A, B2-1C, B2K-3C, B2-203, B4-2C, B4-103, and B4-203 airplanes
2018-18-20		Airbus SAS	A300 and A310 airplanes
2018-18-21		Airbus SAS	A300 and A310 airplanes
2018-19-02		Airbus Defense and Space S.A.	A300 and A310 airplanes
2018-19-03		Fokker Services B.V.	C-212-CB, C-212-CC, C-212-CD, C-212-CE, and C-212-DF airplanes
2018-19-04		Learjet, Inc.	F28 Mark 0070 and 0100 airplanes
2018-19-05		Dassault Aviation	28, 29, 31, 31A, 35, 35A, 36, 36A, 55, 55B, 55C, and 60 airplanes
2018-19-12	R 2015-17-04	Bombardier, Inc.	MYSTERE-FALCON 900 airplanes
2018-19-13		328 Support Services GmbH	CL-600-2C10, -2D15, and -2D24 airplanes
2018-19-14		Dassault Aviation	328-100 and -300 airplanes
2018-19-17		Airbus SAS	FALCON 2000 and FALCON 2000EX airplanes
2018-19-19		Airbus SAS	A300 B2-1A, B2-1C, B2K-3C, B2-203, B4-2C, B4-103, and B4-203 airplanes
2018-19-20	R 2010-25-06	The Boeing Company	A350-941 airplanes
			737-200, -300, -400, and -500 series airplanes

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AD No.	Information	Manufacturer	Applicability
Information Key: E – Emergency; COR – Correction; S – Supersedes; R – Replaces, A – Affects			
2018-19-21		The Boeing Company	707-100 long body, -200, -100B long body, -100B short body, -300, -300B, -300C, and -400 series; 720 and 720B series airplanes
2018-19-25		Dassault Aviation	FALCON 2000 airplanes
2018-19-28		Embraer S.A.	ERJ 190-100 ECJ, -100 STD, -100 LR, and -100 IGW; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes
2018-19-30		BAE Systems (Operations) Limited	4101 airplanes
2018-19-31		Airbus SAS	A310-203, -204, -221, -222, -304, -322, -324, and -325 airplanes
2018-19-32		The Boeing Company	707-100 Long Body, -200, -100B Long Body, and -100B Short Body; 707-300, -300B, -300C, and -400; and 720 and 720B series airplanes
2018-19-33		Airbus SAS	A300 B4-601, B4-603, B4-620, B4-622, B4-605R, B4-622R, F4-605R, F4-622R, and C4-605R Variant F airplanes
2018-20-02	R 98-18-24	Airbus SAS	A320-211 and A320-231 airplanes
2018-20-04		Gulfstream Aerospace Corporation	GVI airplanes
2018-20-05		The Boeing Company	727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes
<b>Biweekly 2018-21</b>			
2018-17-14		General Electric Company	CF34-8E turbofan engines
2018-18-01	R 2018-10-11	CFM International S.A.	CFM56-7B engines
2018-19-06		Dassault Aviation	FALCON 900EX airplanes
2018-19-07		Airbus SAS	A300, A310 airplanes
2018-19-15		GEVEN S.p.A.	Type D1-02 and D1-03 in-arm table, standard, and last row seats
2018-19-16		CFM International S.A.	CFM LEAP-1A23, -1A24, -1A24E1, -1A26, -1A26E1, -1A26CJ, -1A29, -1A29CJ, -1A30, -1A32, -1A33, -1A33B2, and -1A35A turbofan engines
2018-19-18		Airbus SAS	A300 B4-603, A300 B4-620, A300 B4-622, A300 B4-605R, A300 B4-622R, A300 C4-605R Variant F, and A300 F4-605R airplanes
2018-19-22		General Electric Company	CF34-10A16, CF34-10E2A1, CF34-10E5, CF34-10E5A1, CF34-10E6, CF34-10E6A1, CF34-10E7, and CF34-10E7-B turbofan engines
2018-19-23	R 2013-01-02	The Boeing Company	747 and 757 airplanes
2018-19-24		BAE Systems (Operations) Limited	4101 airplanes
2018-19-26		Dassault Aviation	MYSTERE-FALCON 200 airplanes
2018-19-27		Dassault Aviation	FALCON 2000EX airplanes
2018-19-29		Airbus SAS	A330 and A340 airplanes
2018-20-06	R 2016-25-03	Airbus SAS	A300 F4-605R and A300 F4-622R airplanes
2018-20-07		Dassault Aviation	MYSTERE-FALCON 50 airplanes
2018-20-08		Airbus SAS	A318, A319, A320, and A321 airplanes
2018-20-10		Airbus SAS	A350-941 airplanes
2018-20-13		The Boeing Company	737 (see AD), 757, and 767 airplanes
<b>Biweekly 2018-22</b>			
2018-20-11		Bombardier, Inc.	DHC-8-301, -311, and -315 airplanes
2018-20-12		Bombardier, Inc.	DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes
2018-20-13		The Boeing Company	737, 757, 767 series airplanes (see AD)
2018-20-14		ATR-GIE Avions de Transport Régional	ATR42-500 airplanes
2018-20-15	R 2015-09-07	The Boeing Company	787-8 and 787-9 airplanes
2018-20-16	R 2013-11-12	Bombardier, Inc.	BD-100-1A10 airplanes
2018-20-17	R 2012-22-10	Bombardier, Inc.	CL-600-2C10, -2D15, -2D24, -2E25 airplanes
2018-20-18		Bombardier, Inc.	DHC-8-400, -401, and -402 airplanes
2018-20-19	R 2017-16-07	Airbus SAS	A330, A340 airplanes
2018-20-20		Bombardier, Inc.	BD-700-1A10 and BD-700-1A11 airplanes
2018-20-21		Bombardier, Inc.	CL-600-2B16 (CL-604 Variants) airplanes

## LARGE AIRCRAFT

AD No.	Information	Manufacturer	Applicability
Information Key: E – Emergency; COR – Correction; S – Supersedes; R – Replaces, A – Affects			
2018-20-22		General Electric Company	GE90-110B1, GE90-113B, and GE90-115B turbofan engines
2018-20-23	R 2017-07-04	General Electric Company	GE90-110B1 and GE90-115B turbofan engines
2018-20-24		The Boeing Company	737-600, -700, -700C, -800, -900, and -900ER series airplanes
2018-21-01	R 2017-20-06	Honeywell International Inc.	AS907-1-1A turbofan engines
2018-21-03		Bombardier, Inc.	BD-700-1A10 and BD-700-1A11 airplanes
2018-21-05		Airbus SAS	A319-131, A319-132, A319-133, A320-231, A320-232, A320-233, A321-131, A321-231, and A321-232 airplanes
2018-21-07		Airbus SAS	A330 airplanes
2018-21-08		The Boeing Company	737-100, -200, -200C, -300, -400, and -500 series airplanes
2018-21-09	R 2006-07-26	ATR-GIE Avions de Transport Régional	ATR42-200, -300, -320, and -500 airplanes
2018-22-03	R 2016-24-03	Bombardier, Inc.	DHC-8-400, -401 and -402 airplanes
2018-22-04	R 2017-01-02	The Boeing Company	787 series airplanes



**2018-20-11 Bombardier, Inc.:** Amendment 39-19445; Docket No. FAA-2018-0586; Product Identifier 2017-NM-151-AD.

**(a) Effective Date**

This AD is effective November 23, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc., Model DHC-8-301, -311, and -315 airplanes, certificated in any category, serial numbers 100 through 672 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 52, Doors.

**(e) Reason**

This AD was prompted by reports indicating that the forward right-hand type I emergency exit door could not be opened during maintenance. An investigation determined that the exit door handle was jammed due to corroded center and lower shaft ball bearings. We are issuing this AD to address corrosion of the emergency exit door ball bearings, which could result in the inability to open the emergency exit door during an emergency evacuation and consequently impede airplane egress.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Revision of Maintenance or Inspection Program**

Within 60 days after the effective date of this AD: Revise the maintenance or inspection program, as applicable, to incorporate de Havilland Inc. Dash 8 Series 300 Maintenance Task Card Task Number 5220/12 (“Servicing of Forward RH Emergency Exit Mechanisms”), dated March 15, 2017; and Temporary Revision 54-042, dated April 10, 2018, to the DHC-8-300 Aircraft Maintenance Manual (AMM). The initial compliance time for doing the task is at the time specified in de Havilland Inc. Dash 8 Series 300 Maintenance Task Card Task Number 5220/12 (“Servicing of Forward RH Emergency Exit Mechanisms”), dated March 15, 2017, or within 60 days after the effective date of this AD, whichever occurs later.

### **(h) Inspection and Replacement**

Within 5,000 flight hours or 36 months, whichever occurs first, after the effective date of this AD: Do a detailed inspection of all ball bearings of the forward right-hand type I emergency exit for corrosion, seal damage, and loss of lubricant; replace bearings as applicable; and apply corrosion inhibiting compound (CIC); in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-52-65, dated July 26, 2017. Do all applicable replacements before further flight.

### **(i) No Alternative Actions or Intervals**

After the maintenance or inspection program has been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions and intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j)(1) of this AD.

### **(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

### **(k) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2017-30, dated August 30, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0586.

(2) For more information about this AD, contact Darren Gassetto, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

### **(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 8-52-65, dated July 26, 2017.

(ii) de Havilland Inc. Dash 8 Series 300 Maintenance Task Card Task Number 5220/12 (“Servicing of Forward RH Emergency Exit Mechanisms”), dated March 15, 2017.

(iii) Temporary Revision (TR) 54-042, dated April 10, 2018, to the DHC-8-300 Aircraft Maintenance Manual (AMM).

(3) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 20, 2018.

John P. Piccola,

Acting Director, System Oversight Division, Aircraft Certification Service.



**2018-20-12 Bombardier, Inc.:** Amendment 39-19446; Docket No. FAA-2018-0553; Product Identifier 2017-NM-138-AD.

**(a) Effective Date**

This AD is effective November 23, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc., Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes, certificated in any category, serial numbers 003 through 672 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 30, Ice and rain protection.

**(e) Reason**

This AD was prompted by reports of arcing and smoke emanating from the windshield, caused by loose or damaged windshield heater terminal lugs. We are issuing this AD to address loose terminal lugs and terminal lugs damaged due to fluid ingress between the windshields and side window posts, which could lead to burning of the lugs and cracking of the windshields, and could ultimately cause a loss of cabin pressure, resulting in an emergency descent.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Maintenance or Inspection Program Revision**

Within 30 days after the effective date of this AD, revise the existing maintenance or inspection program, as applicable, to incorporate the applicable task identified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD into the applicable program support manual (PSM) identified in table 1 to paragraph (g) of this AD, which is included in the existing maintenance or inspection program. The initial compliance time for the tasks are within 1,600 flight hours or 12 months, whichever occurs first after the effective date of this AD.

(1) de Havilland Inc. Dash 8 Series 100 Maintenance Task Card Task Number 5610/01, "General Visual Inspection of the Windshield Moisture Seal," dated August 5, 2017.

(2) de Havilland Inc. Dash 8 Series 200 Maintenance Task Card Task Number 5610/01, "General Visual Inspection of the Windshield Moisture Seal," dated August 5, 2017.

(3) de Havilland Inc. Dash 8 Series 300 Maintenance Task Card Task Number 5610/01, "General Visual Inspection of the Windshield Moisture Seal," dated March 15, 2017.

**Table 1 to Paragraph (g) of This AD–PSM to Update**

<b>Airplane model</b>	<b>Maintenance requirements manual (MRM)</b>
DHC-8-102, -103, and -106	PSM 1-8-7
DHC-8-201 and -202	PSM 1-82-7
DHC-8-301, -311, and -315	PSM 1-83-7

**(h) No Alternative Actions or Intervals**

After the maintenance or inspection program has been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (k)(1) of this AD.

**(i) Cleaning, Inspection, Re-Torqueing, Sealant Application, and Operational Test**

Within 8,000 flight hours or 60 months, whichever occurs first after the effective date of this AD: Perform a chemical cleaning of the wiring and components, do a general visual inspection of the wiring and components for signs of cracking, erosion, wear, or other damage, re-torque the windshield heater terminal lugs, apply Humiseal coating to the screw heads of the windshield heater, and do an operational test of the pilot's and co-pilot's windshield heating system, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-30-41, Revision A, dated March 24, 2017. If the operational test fails, before further flight, do corrective actions, repeat the test, and do applicable corrective actions until the operational test is passed. If any cracking, erosion, wear, or other damage is found, before further flight, repair using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(j) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraph (i) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 8-30-41, dated March 31, 2016.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

### **(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2017-25, dated July 31, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0553.

(2) For more information about this AD, contact John P. DeLuca, Aerospace Engineer, Avionics and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7369; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(3) and (m)(4) of this AD.

### **(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 8-30-41, Revision A, dated March 24, 2017.

(ii) de Havilland Inc. Dash 8 Series 100 Maintenance Task Card Task Number 5610/01, "General Visual Inspection of the Windshield Moisture Seal," dated August 5, 2017.

(iii) de Havilland Inc. Dash 8 Series 200 Maintenance Task Card Task Number 5610/01, "General Visual Inspection of the Windshield Moisture Seal," dated August 5, 2017.

(iv) de Havilland Inc. Dash 8 Series 300 Maintenance Task Card Task Number 5610/01, "General Visual Inspection of the Windshield Moisture Seal," dated March 15, 2017.

(3) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 20, 2018.

John P. Piccola,

Acting Director, System Oversight Division, Aircraft Certification Service.



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## **AIRWORTHINESS DIRECTIVE**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
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**2018-20-13 The Boeing Company:** Amendment 39-19447; Docket No. FAA-2017-0127; Product Identifier 2016-NM-161-AD.

### **(a) Effective Date**

This AD is effective November 15, 2018.

### **(b) Affected ADs**

This AD affects AD 2015-21-09, Amendment 39-18302 (80 FR 65121, October 26, 2015) (“AD 2015-21-09”); AD 2015-19-04, Amendment 39-18267, (80 FR 55505, September 16, 2015) (“AD 2015-19-04”); and AD 2015-21-10, Amendment 39-18303 (80 FR 65130, October 26, 2015) (“AD 2015-21-10”).

### **(c) Applicability**

This AD applies to all The Boeing Company airplanes, certificated in any category, identified in paragraphs (c)(1), (c)(2), and (c)(3) of this AD.

- (1) Model 737 airplanes, excluding Model 737-100, -200, -200C, -300, -400, and -500 series airplanes.
- (2) Model 757-200, -200PF, -200CB, and -300 series airplanes.
- (3) Model 767-200, -300, -300F, and -400ER series airplanes.

### **(d) Subject**

Air Transport Association (ATA) of America Code 28; Fuel.

### **(e) Unsafe Condition**

This AD was prompted by reports of latently failed motor-operated valve (MOV) actuators of the fuel shutoff valves. We are issuing this AD to prevent a latent failure of the actuator for the engine or auxiliary power unit (APU) fuel shutoff valves, which could result in the inability to shut off fuel to the engine or the APU, and, in case of certain engine or APU fires, could result in structural failure.

### **(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

### **(g) Inspection To Determine Part Number (P/N)**

(1) For Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes: Within 8 years after the effective date of this AD, do an inspection to determine the part numbers of the MOV actuators of the fuel shutoff valves for the left and right engines, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 737-28-1314, dated November 17, 2014. A

review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the MOV actuator at each location can be conclusively determined from that review.

(2) For airplanes identified in paragraphs (c)(2) and (c)(3) of this AD: Within 8 years after the effective date of this AD, do an inspection to determine the part numbers of the MOV actuators of the fuel shutoff valves for the left and right engines, and of the APU fuel shutoff valve, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 757-28-0138, Revision 1, dated June 19, 2017 (“SB 757-28-0138 R1”); or Boeing Service Bulletin 767-28-0115, Revision 1, dated June 2, 2016 (“SB 767-28-0115 R1”); as applicable. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the MOV actuator at each location can be conclusively determined from that review.

## **(h) Replacement**

(1) For Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes on which any MOV actuator having P/N MA20A2027 or P/N MA30A1001 (Boeing P/N S343T003-56 or Boeing P/N S343T003-66, respectively), is found during the inspection required by paragraph (g)(1) of this AD: Within 8 years after the effective date of this AD, replace each affected MOV actuator with an MOV actuator having P/N MA30A1017 (Boeing P/N S343T003-76), in accordance with the Accomplishment Instructions of Boeing Service Bulletin 737-28-1314, dated November 17, 2014. Where Boeing Service Bulletin 737-28-1314, dated November 17, 2014, specifies the installation of a new MOV actuator, this AD allows the installation of a new or serviceable MOV actuator. While not required by this AD, the Accomplishment Instructions specified in Boeing Service Bulletin 737-28-1314, dated November 17, 2014, for replacing MOV actuators having Boeing P/N S343T003-66 or Boeing P/N S343T003-56 may be used for replacing MOV actuators having P/N MA20A1001-1 (Boeing P/N S343T003-39).

(2) For airplanes identified in paragraph (c)(2) of this AD on which any MOV actuator having P/N MA20A2027 or P/N MA30A1001 (Boeing P/N S343T003-56 or Boeing P/N S343T003-66, respectively) is found during the inspection required by paragraph (g)(2) of this AD: Within 8 years after the effective date of this AD, replace each affected MOV actuator with an MOV actuator having P/N MA30A1017 (Boeing P/N S343T003-76), P/N AV-31-1 (Boeing P/N S343T003-111), or P/N MA11A1265-1 (Boeing P/N S343T003-41), in accordance with the Accomplishment Instructions of SB 757-28-0138 R1. Where SB 757-28-0138 R1 specifies the installation of a new MOV actuator, this AD allows the installation of a new or serviceable MOV actuator. While not required by this AD, the Accomplishment Instructions specified in SB 757-28-0138 R1 for replacing MOV actuators having Boeing P/N S343T003-66 or Boeing P/N S343T003-56 may be used for replacing MOV actuators having P/N MA20A1001-1 (Boeing P/N S343T003-39).

(3) For airplanes identified in paragraph (c)(3) of this AD on which any MOV actuator having P/N MA20A2027 (Boeing P/N S343T003-56) or P/N MA30A1001 (Boeing P/N S343T003-66) is found during the inspection required by paragraph (g)(2) of this AD: Within 8 years after the effective date of this AD, replace each affected MOV actuator with an MOV actuator having P/N MA30A1017 (Boeing P/N S343T003-76), P/N AV-31-1 (Boeing P/N S343T003-111), P/N MA11A1265 (Boeing P/N S343T003-14), or P/N MA11A1265-1 (Boeing P/N S343T003-41), in accordance with the Accomplishment Instructions of SB 767-28-0115 R1. Where SB 767-28-0115 R1 specifies the installation of a new MOV actuator, this AD allows the installation of a new or serviceable MOV actuator. While not required by this AD, the Accomplishment Instructions specified in SB 767-28-0115 R1, for replacing MOV actuators having Boeing P/N S343T003-66 or Boeing P/N S343T003-56 may be used for replacing MOV actuators having P/N MA20A1001-1 (Boeing P/N S343T003-39).

**(i) Maintenance or Inspection Program Revision**

(1) For Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes with an original certificate of airworthiness or original export certificate of airworthiness issued on or before the effective date of this AD: Prior to or concurrently with the actions required by paragraph (h)(1) of this AD or within 30 days after the effective date of this AD, whichever is later, revise the maintenance or inspection program, as applicable, to add the airworthiness limitations (AWLs) specified in paragraphs (i)(1)(i), (i)(1)(ii), and (i)(1)(iii) of this AD. The initial compliance time for accomplishing the actions required by AWL No. 28-AWL-24 is within 6 years since the most recent inspection was performed in accordance with AWL No. 28-AWL-24, or within 6 years since the actions specified in Boeing Alert Service Bulletin 737-28A1207 were accomplished, whichever is later.

(i) AWL No. 28-AWL-21, Motor Operated Valve (MOV) Actuator–Lightning and Fault Current Protection Electrical Bond, as specified in Boeing 737-600/700/700C/800/900/900ER Special Compliance Items/Airworthiness Limitations, D626A001-9-04, Revision June 2018.

(ii) AWL No. 28-AWL-22, Motor Operated Valve (MOV) Actuator–Electrical Design Feature, as specified in Boeing 737-600/700/700C/800/900/900ER Special Compliance Items/Airworthiness Limitations, D626A001-9-04, Revision June 2018.

(iii) AWL No. 28-AWL-24, Spar Valve Motor Operated Valve (MOV) Actuator–Lightning and Fault Current Protection Electrical Bond, as specified in Boeing 737-600/700/700C/800/900/900ER Special Compliance Items/Airworthiness Limitations, D626A001-9-04, Revision June 2018.

(2) For airplanes identified in paragraph (c)(2) of this AD: Prior to or concurrently with the actions required by paragraph (h)(2) of this AD, revise the maintenance or inspection program, as applicable, to add the AWLs specified in paragraphs (i)(2)(i), (i)(2)(ii), and (i)(2)(iii) of this AD. The initial compliance time for accomplishing the actions required by AWL No. 28-AWL-25 is within 6 years since the most recent inspection was performed in accordance with AWL No. 28-AWL-25, or within 6 years since the actions specified in Boeing Alert Service Bulletin 757-28A0088 were accomplished, whichever is later.

(i) AWL No. 28-AWL-23, Motor Operated Valve (MOV) Actuator–Lightning and Fault Current Protection Electrical Bond, as specified in Boeing 757 Maintenance Planning Data (MPD) Document, Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622N001-9, Revision May 2018.

(ii) AWL No. 28-AWL-24, MOV Actuator–Electrical Design Feature, as specified in Boeing 757 Maintenance Planning Data (MPD) Document, Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622N001-9, Revision May 2018.

(iii) AWL No. 28-AWL-25, Motor Operated Valve (MOV) Actuator–Lightning and Fault Current Protection Electrical Bond, as specified in Boeing 757 Maintenance Planning Data (MPD) Document, Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622N001-9, Revision May 2018.

(3) For airplanes identified in paragraph (c)(3) of this AD with an original certificate of airworthiness or original export certificate of airworthiness issued on or before the effective date of this AD: Prior to or concurrently with the actions required by paragraph (h)(3) of this AD, revise the maintenance or inspection program, as applicable, to add the AWLs specified in paragraphs (i)(3)(i) and (i)(3)(ii) of this AD.

(i) AWL No. 28-AWL-23, Motor Operated Valve (MOV) Actuator–Lightning and Fault Current Protection Electrical Bond, as specified in Boeing 767-200/300/300F/400 Special Compliance Items/Airworthiness Limitations, D622T001-9-04, Revision March 2018.

(ii) AWL No. 28-AWL-24, Motor Operated Valve (MOV) Actuator–Electrical Design Feature, as specified in Boeing 767-200/300/300F/400 Special Compliance Items/Airworthiness Limitations, D622T001-9-04, Revision March 2018.

**(j) Maintenance or Inspection Program Revision for Parts Installation Prohibition**

(1) For Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes: After accomplishing the actions required by paragraphs (g)(1), (h)(1), and (i)(1) of this AD, as applicable, on all airplanes in an operator's fleet, and within 8 years after the effective date of the AD, revise the maintenance or inspection program, as applicable, by incorporating the AWL specified in figure 1 to paragraph (j)(1) of this AD.

**Figure 1 to Paragraph (j)(1) of this AD –  
AWL for Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes**

<b>AWL No.</b>	<b>Applicability</b>	<b>Description</b>
28-AWL-MOVA	All	Motor Operated Valve (MOV) Actuator - Prohibition of Installation of Specific Part Numbers  Installation of MOV actuator part number (P/N) MA30A1001 (Boeing P/N S343T003-66) and P/N MA20A2027 (Boeing P/N S343T003-56) is prohibited at the following positions: 1. Left engine fuel shutoff spar valve position 2. Right engine fuel shutoff spar valve position

(2) For airplanes identified in paragraph (c)(2) of this AD: After accomplishing the actions required by paragraphs (g)(2), (h)(2), and (i)(2) of this AD, as applicable, on all airplanes in an operator's fleet, and within 8 years after the effective date of the AD, revise the maintenance or inspection program, as applicable, by incorporating the AWL specified in figure 2 to paragraph (j)(2) of this AD.

**Figure 2 to Paragraph (j)(2) of this AD –  
AWL for airplanes identified in paragraph (c)(2) of this AD**

<b>AWL No.</b>	<b>Applicability</b>	<b>Description</b>
28-AWL-MOVA	All	Motor Operated Valve (MOV) Actuator - Prohibition of Installation of Specific Part Numbers  Installation of MOV actuator part number (P/N) MA30A1001 (Boeing P/N S343T003-66) and P/N MA20A2027 (Boeing P/N S343T003-56) is prohibited at the following positions: 1. Left engine fuel shutoff spar valve position 2. Right engine fuel shutoff spar valve position 3. APU fuel shutoff valve position

(3) For airplanes identified in paragraph (c)(3) of this AD: After accomplishing the actions required by paragraphs (g)(2), (h)(3), and (i)(3) of this AD, as applicable, on all airplanes in an operator's fleet, and within 8 years after the effective date of the AD, revise the maintenance or inspection program, as applicable, by incorporating the AWL specified in figure 3 to paragraph (j)(3) of this AD.

**Figure 3 to Paragraph (j)(3) of this AD –  
AWL for airplanes identified in paragraph (c)(3) of this AD**

AWL No.	Applicability	Description
28-AWL-MOVA	All	Motor Operated Valve (MOV) Actuator - Prohibition of Installation of Specific Part Numbers  Installation of MOV actuator part number (P/N) MA30A1001 (Boeing P/N S343T003-66) and P/N MA20A2027 (Boeing P/N S343T003-56) is prohibited at the following positions:  1. Left engine fuel shutoff spar valve position 2. Right engine fuel shutoff spar valve position 3. APU fuel shutoff valve position

(4) For airplanes identified in paragraph (c)(1) of this AD, excluding Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes: Within 30 days since the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, or within 30 days after the effective date of this AD, whichever is later, revise the maintenance or inspection program, as applicable, by incorporating the AWL specified in figure 4 to paragraph (j)(4) of this AD.

**Figure 4 to Paragraph (j)(4) of this AD –**  
*AWL for airplanes identified in paragraph (c)(1) of this AD,*  
*excluding Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes*

AWL No.	Applicability	Description
28-AWL-MOVA	All	<p>Motor Operated Valve (MOV) Actuator – Prohibition of Installation of Specific Part Numbers</p> <p>Concern: Installation of the following MOV actuator part numbers (P/N) is not part of the airplane type design: P/N MA30A1001 (Boeing P/N S343T003-66), P/N MA20A2027 (Boeing P/N S343T003-56), P/N MA20A1001-1 (Boeing P/N S343T003-39). However, there is a potential for those part numbers to be installed on the airplane using provisions provided in FAA Advisory Circular 120-77 or other means due to their continued availability and use on other Model 737 airplanes. Such an alteration will create unsafe conditions.</p> <ol style="list-style-type: none"> <li>1. Installation of MOV actuator P/N MA20A1001-1 (Boeing P/N S343T003-39) is prohibited at any location.</li> <li>2. Installation of MOV actuator part number (P/N) MA30A1001 (Boeing P/N S343T003-66) and P/N MA20A2027 (Boeing P/N S343T003-56) is prohibited at the following positions: <ol style="list-style-type: none"> <li>a. Left engine fuel shutoff spar valve position</li> <li>b. Right engine fuel shutoff spar valve position</li> </ol> </li> </ol>

**(k) No Alternative Actions, Intervals, and Critical Design Configuration Control Limitations (CDCCLs)**

(1) After the maintenance or inspection program has been revised as required by paragraph (i) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs, may be used unless the actions, intervals, and CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (o) of this AD.

(2) After the maintenance or inspection program has been revised as required by paragraph (j) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs, may be used unless the actions, intervals, and CDCCLs are approved as an AMOC in accordance with the procedures specified in paragraph (o) of this AD.

**(l) Parts Installation Prohibition**

(1) For Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes: As of the effective date of this AD, no person may replace an MOV actuator having P/N MA30A1017 (Boeing P/N S343T003-76) with an MOV actuator having P/N MA20A2027 or P/N MA30A1001 (Boeing P/N S343T003-56 or Boeing P/N S343T003-66, respectively) for the left engine and right engine fuel shutoff valves.

(2) For airplanes identified in paragraph (c)(2) of this AD: As of the effective date of this AD, no person may replace an MOV actuator having P/N AV-31-1 (Boeing P/N S343T003-111), P/N MA11A1265 (Boeing P/N S343T003-14), P/N MA11A1265-1 (Boeing P/N S343T003-41), or P/N MA30A1017 (Boeing P/N S343T003-76) with an MOV actuator having P/N MA30A1001 (Boeing P/N S343T003-66) or P/N MA20A2027 (Boeing P/N S343T003-56) for the left engine and right engine fuel shutoff valves and the APU fuel shutoff valve.

(3) For airplanes identified in paragraph (c)(3) of this AD: As of the effective date of this AD, no person may replace an MOV actuator having P/N AV-31-1 (Boeing P/N S343T003-111), P/N MA11A1265 (Boeing P/N S343T003-14), P/N MA11A1265-1 (Boeing P/N S343T003-41), or P/N MA30A1017 (Boeing P/N S343T003-76) with an MOV actuator having P/N MA30A1001 (Boeing P/N S343T003-66) or P/N MA20A2027 (Boeing P/N S343T003-56) for the left engine and right engine fuel shutoff valves and the APU fuel shutoff valve.

(4) For airplanes identified in paragraph (c)(1) of this AD, excluding Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes: As of the effective date of this AD, no person may install an MOV actuator having P/N MA20A1001-1 (Boeing P/N S343T003-39) or replace an MOV actuator with an MOV actuator having P/N MA20A2027 or P/N MA30A1001 (Boeing P/N S343T003-56 or Boeing P/N S343T003-66, respectively) for the left engine and right engine fuel shutoff valves.

#### **(m) Terminating Action**

(1) For Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes: Accomplishing the actions required by paragraph (j)(1) of this AD terminates the requirements of paragraph (l)(1) of this AD and all requirements of AD 2015-21-10.

(2) For airplanes identified in paragraph (c)(2) of this AD: Accomplishing the action required by paragraph (j)(2) of this AD terminates the requirements of paragraph (l)(2) of this AD and all requirements of AD 2015-19-04.

(3) For airplanes identified in paragraph (c)(3) of this AD: Accomplishing the action required by paragraph (j)(3) of this AD terminates the requirements of paragraph (l)(3) of this AD and all requirements of AD 2015-21-09.

(4) For airplanes identified in paragraph (c)(1) of this AD, excluding Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes: Accomplishing the action required by paragraph (j)(4) of this AD terminates the requirements of paragraph (l)(4) of this AD.

#### **(n) Credit for Previous Actions**

(1) This paragraph provides credit for the actions specified in paragraph (g)(2) or (h)(2) of this AD, as applicable, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 757-28-0138, dated May 18, 2016.

(2) This paragraph provides credit for the actions specified in paragraph (g)(2) or (h)(3) of this AD, as applicable, if those actions were performed before the effective date of this AD using Boeing Service Bulletin 767-28-0115, dated September 10, 2015.

(3) For Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes with an original certificate of airworthiness or original export certificate of airworthiness issued on or before the effective date of this AD, this paragraph provides credit for the actions specified in paragraph (i)(1) of this AD if those actions were performed before the effective date of this AD using Boeing 737-600/700/700C/800/900/900ER Special Compliance Items/Airworthiness Limitations, D626A001-9-04, Revision July 2016, Revision September 2016, Revision January 2017, Revision April 2018, or Revision May 2018; or Boeing 737-600/700/700C/800/900/900ER Maintenance Planning Data (MPD) Document, Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D626A001-CMR, Revision October 2014, Revision November 2014, Revision January 2015, or Revision April 2016.

(4) For airplanes identified in paragraph (c)(2) of this AD, this paragraph provides credit for the actions specified in paragraph (i)(2) of this AD if those actions were performed before the effective date of this AD using Boeing 757 Maintenance Planning Data (MPD) Document, Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622N001-9, Revision January 2016, Revision July 2016, or Revision February 2017.

(5) For airplanes identified in paragraph (c)(3) of this AD with an original certificate of airworthiness or original export certificate of airworthiness issued on or before the effective date of this AD, this paragraph provides credit for the actions specified in paragraph (i)(3) of this AD if those actions were performed before the effective date of this AD using Boeing 767 Special Compliance Items/Airworthiness Limitations, D622T001-9-04, Revision July 2015, Revision March 2016, Revision May 2016, Revision May 2016 R1, or Revision June 2016; or Boeing 767-200/300/300F/400 Special Compliance Items/Airworthiness Limitations, D622T001-9-04, Revision January 2018.

(6) For airplanes identified in paragraph (c)(3) of this AD with an original certificate of airworthiness or original export certificate of airworthiness issued on or before the effective date of this AD, this paragraph provides credit for the actions specified in paragraph (i)(3)(ii) of this AD if those actions were performed before the effective date of this AD using Boeing 767 Special Compliance Items/Airworthiness Limitations, D622T001-9-04, Revision October 2014.

#### **(o) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (p)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (o)(4)(i) and (o)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

#### **(p) Related Information**

(1) For more information about this AD, contact Tak Kobayashi, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3553; email: Takahisa.Kobayashi@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (q)(3) and (q)(4) of this AD.

**(q) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing 737-600/700/700C/800/900/900ER Special Compliance Items/Airworthiness Limitations, D626A001-9-04, Revision June 2018.

(ii) Boeing 757 Maintenance Planning Data (MPD) Document, Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622N001-9, Revision May 2018.

(iii) Boeing 767-200/300/300F/400ER Special Compliance Items/Airworthiness Limitations, D622T001-9-04, Revision March 2018.

(iv) Boeing Service Bulletin 737-28-1314, dated November 17, 2014.

(v) Boeing Service Bulletin 767-28-0115, Revision 1, dated June 2, 2016.

(vi) Boeing Special Attention Service Bulletin 757-28-0138, Revision 1, dated June 19, 2017.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone: 562-797-1717; internet: <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 14, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**FAA**  
**Aviation Safety**

## **AIRWORTHINESS DIRECTIVE**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

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**2018-20-14 ATR-GIE Avions de Transport Régional:** Amendment 39-19448; Docket No. FAA-2018-0366; Product Identifier 2017-NM-166-AD.

### **(a) Effective Date**

This AD is effective November 20, 2018.

### **(b) Affected ADs**

This AD affects the ADs specified in paragraphs (b)(1), (b)(2), and (b)(3) of this AD.

(1) AD 2000-23-04 R1, Amendment 39-12174 (66 FR 19381, April 16, 2001) (“AD 2000-23-04 R1”).

(2) AD 2008-04-19 R1, Amendment 39-16069 (74 FR 56713, November 3, 2009) (“AD 2008-04-19 R1”).

(3) AD 2015-26-09, Amendment 39-18357 (81 FR 1483, January 13, 2016) (“AD 2015-26-09”).

### **(c) Applicability**

This AD applies to ATR-GIE Avions de Transport Régional Model ATR42-500 airplanes, certificated in any category, with an original airworthiness certificate or original export certificate of airworthiness dated on or before May 3, 2017.

### **(d) Subject**

Air Transport Association (ATA) of America Code 05, Time limits/maintenance checks.

### **(e) Reason**

This AD was prompted by a determination that more restrictive maintenance requirements and airworthiness limitations are necessary. We are issuing this AD to prevent reduced structural integrity of the airplane.

### **(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

### **(g) Maintenance or Inspection Program Revision**

Within 90 days after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate the information specified in ATR ATR42-400/-500, Time Limits Document (TL), Revision 11, dated May 5, 2015; and ATR ATR42-400/-500 Time Limits Temporary Revision TR01/17, dated May 3, 2017. The initial compliance time for accomplishing the tasks is at the applicable times specified in ATR ATR42-400/-500, Time Limits Document (TL), Revision 11, dated May 5, 2015; and ATR ATR42-400/-500 Time Limits Temporary Revision

TR01/17, dated May 3, 2017; or within 90 days after the effective date of this AD; whichever occurs later, except for those certification maintenance requirements (CMRs) tasks identified in figure 1 to paragraphs (g) and (h) of this AD.

**Figure 1 to paragraphs (g) and (h) of this AD – *Grace period for CMR tasks***

<b>CMR/Maintenance Significant Item (MSI) Task</b>	<b>Compliance Time</b>
213100-2A	Within 550 flight hours or 90 days, whichever occurs first, after the effective date of this AD.
213100-2B	
213100-3A	
213100-3B	

**(h) Initial Compliance Times for Certain CMR Tasks**

For the CMR tasks listed in figure 1 to paragraphs (g) and (h) of this AD, the initial compliance time for accomplishing the tasks is at the applicable time specified in ATR ATR42-400/-500 Time Limits Temporary Revision TR01/17, dated May 3, 2017; or within the compliance time specified in figure 1 to paragraphs (g) and (h) of this AD; whichever occurs later.

**(i) No Alternative Actions, Intervals, and/or Critical Design Configuration Control Limitations (CDCCLs)**

After the maintenance or inspection program, as applicable, has been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections), intervals, and/or CDCCLs may be used unless the actions, intervals, and/or CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (k)(1) of this AD.

**(j) Terminating Action for Certain ADs**

Accomplishing the actions required by paragraph (g) of this AD terminates all requirements of AD 2000-23-04 R1 and all requirements of the ADs specified in paragraphs (j)(1) and (j)(2) of this AD for ATR-GIE Avions de Transport Régional Model ATR42-500 airplanes only.

- (1) AD 2008-04-19 R1.
- (2) AD 2015-26-09.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Section, send it to the attention of the person identified in paragraph (l)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or ATR-GIE Avions de Transport Régional's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

**(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0222R1, dated December 15, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0366.

(2) For more information about this AD, contact Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3220.

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) ATR ATR42-400/-500, Time Limits Document (TL), Revision 11, dated May 5, 2015.

(ii) ATR ATR42-400/-500 Time Limits Temporary Revision TR01/17, dated May 3, 2017.

(3) For service information identified in this AD, contact ATR GIE Avions de Transport Régional, 1, Allée Pierre Nadot, 31712 Blagnac Cedex, France; telephone +33 (0) 5 62 21 62 21; fax +33 (0) 5 62 21 67 18; email [continued.airworthiness@atr.aircraft.com](mailto:continued.airworthiness@atr.aircraft.com); internet <http://www.atr-aircraft.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 25, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-20-15 The Boeing Company:** Amendment 39-19449; Docket No. FAA-2017-0771; Product Identifier 2016-NM-212-AD.

**(a) Effective Date**

This AD is effective November 20, 2018.

**(b) Affected ADs**

This AD replaces AD 2015-09-07, Amendment 39-18153 (80 FR 24789, May 1, 2015) (“AD 2015-09-07”).

**(c) Applicability**

This AD applies to The Boeing Company Model 787-8 and 787-9 airplanes, certificated in any category, as identified in Boeing Service Bulletin B787-81205-SB240063-00, Issue 002, dated June 7, 2016.

**(d) Subject**

Air Transport Association (ATA) of America Code 24, Electrical power.

**(e) Unsafe Condition**

This AD was prompted by the determination that a Model 787 airplane that has been powered continuously for 248 days can lose all alternating current (AC) electrical power due to the generator control units (GCUs) simultaneously going into failsafe mode. This condition is caused by a software counter internal to the GCUs that will overflow after 248 days of continuous power. We are issuing this AD to address loss of all AC electrical power, which could result in loss of control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Retained Repetitive Maintenance Task: Electrical Power Deactivation With a New Reference to Terminating Action**

This paragraph restates the actions required by paragraph (g) of AD 2015-09-07, with a new reference to terminating action. At the latest of the times specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD, accomplish electrical power deactivation on the airplane, in accordance with step 2) in “DESIRED ACTION” of Boeing Multi Operator Message MOM-MOM-15-0248-01B, dated April 19, 2015; or Boeing Multi Operator Message MOM-MOM-15-0248-01B(R1), dated April 20, 2015. The main and auxiliary power unit (APU) batteries do not need to be disconnected when

performing the electrical power deactivation. Repeat the electrical power deactivation thereafter at intervals not to exceed 120 days until the software installation required by paragraph (h) of this AD is done.

(1) Within 120 days after the last electrical power deactivation in accordance with step 2) in “DESIRED ACTION” of Boeing Multi Operator Message MOM-MOM-15-0248-01B, dated April 19, 2015; or Boeing Multi Operator Message MOM-MOM-15-0248-01B(R1), dated April 20, 2015.

(2) Within 120 days after the date of issuance of the original certificate of airworthiness or the date of issuance of the original export certificate of airworthiness.

(3) Within 7 days after May 1, 2015 (the effective date of AD 2015-09-07).

**(h) New Requirement of This AD: Software Installation**

Within 12 months after the effective date of this AD: Install new operational program software (OPS), or later-approved version, into each of the six GCUs, do a software check, and do all applicable corrective actions before further flight, in accordance with the Accomplishment Instructions of Boeing Service Bulletin B787-81205-SB240063-00, Issue 002, dated June 7, 2016. Later-approved versions of the software are only those Boeing software versions that are approved as a replacement for the applicable software, and are approved as part of the type design by the FAA or the Boeing Commercial Airplanes Organization Designation Authorization (ODA) after issuance of Boeing Service Bulletin B787-81205-SB240063-00, Issue 002, dated June 7, 2016. If any software check fails, before further flight, do corrective actions, repeat the check, and do applicable corrective actions until the software passes the check. Accomplishment of the actions required by this paragraph on all six GCUs on an airplane terminates the requirements of paragraph (g) of this AD for that airplane.

**(i) New Requirement of This AD: Concurrent Actions**

(1) For Group 1 airplanes as identified in Boeing Service Bulletin B787-81205-SB240063-00, Issue 002, dated June 7, 2016: Prior to or concurrently with accomplishing the actions required by paragraph (h) of this AD, do the actions specified in paragraph (i)(1)(i) and (i)(1)(ii) of this AD.

(i) Install new fuel quantity management program software, or later-approved version, and do a software check, in accordance with the Accomplishment Instructions of Boeing Service Bulletin B787-81205-SB280018-00, Issue 001, dated April 17, 2014. Later-approved versions of the software are only those Boeing software versions that are approved as a replacement for the applicable software, and are approved as part of the type design by the FAA or the Boeing Commercial Airplanes ODA after issuance of Boeing Service Bulletin B787-81205-SB280018-00, Issue 001, dated April 17, 2014. If any software check fails, before further flight, do corrective actions, repeat the check, and do applicable corrective actions until the software passes the check.

(ii) Install new common interface control document 9.3 software, or later-approved version, and do software checks, in accordance with the Accomplishment Instructions of Boeing Service Bulletin B787-81205-SB420006-00, Issue 003, dated October 15, 2015. Later-approved versions of the software are only those Boeing software versions that are approved as a replacement for the applicable software, and are approved as part of the type design by the FAA or the Boeing Commercial Airplanes ODA after issuance of Boeing Service Bulletin B787-81205-SB420006-00, Issue 003, dated October 15, 2015. If any software check fails, before further flight, do corrective actions, repeat the check, and do applicable corrective actions until the software passes the check.

(2) For Group 2 airplanes as identified in Boeing Service Bulletin B787-81205-SB240063-00, Issue 002, dated June 7, 2016: Prior to or concurrently with accomplishing the actions required by paragraph (h) of this AD, install new common interface control document 9.3 software, or later-approved version, and do software checks, in accordance with the Accomplishment Instructions of Boeing Service Bulletin B787-81205-SB420006-00, Issue 003, dated October 15, 2015. Later-approved versions of the software are only those Boeing software versions that are approved as a

replacement for the applicable software, and are approved as part of the type design by the FAA or the Boeing Commercial Airplanes ODA after issuance of Boeing Service Bulletin B787-81205-SB420006-00, Issue 003, dated October 15, 2015. If any software check fails, before further flight, do corrective actions, repeat the check, and do applicable corrective actions until the software passes the check.

#### **(j) Credit for Previous Actions**

(1) This paragraph provides credit for the actions specified in paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin B787-81205-SB240063-00, Issue 001, dated December 22, 2015.

(2) This paragraph provides credit for the actions specified in paragraph (i)(1)(ii) and (i)(2) of this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin B787-81205-SB420006-00, Issue 001, dated January 22, 2015, provided that the applicable actions specified in Table 13 and Table 14, as applicable, of paragraph 4, "Description," of Boeing Service Bulletin B787-81205-SB420006-00, Issue 003, dated October 15, 2015, are done within 12 months after the effective date of this AD.

(3) This paragraph provides credit for the actions specified in paragraph (i)(1)(ii) and (i)(2) of this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin B787-81205-SB420006-00, Issue 002, dated February 13, 2015, provided that the applicable actions specified in Table 14 of paragraph 4, "Description," of Boeing Service Bulletin B787-81205-SB420006-00, Issue 003, dated October 15, 2015, are done within 12 months after the effective date of this AD.

#### **(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes ODA that has been authorized by the Manager, Seattle ACO Branch, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously for AD 2015-09-07 are approved as AMOCs for the corresponding provisions of paragraph (g) of this AD.

(5) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(5)(i) and (k)(5)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

### **(l) Related Information**

(1) For more information about this AD, contact Joe Salameh, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3536; email: joe.salameh@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(5) and (m)(6) of this AD.

### **(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on November 20, 2018.

(i) Boeing Service Bulletin B787-81205-SB240063-00, Issue 002, dated June 7, 2016.

(ii) Boeing Service Bulletin B787-81205-SB280018-00, Issue 001, dated April 17, 2014.

(iii) Boeing Service Bulletin B787-81205-SB420006-00, Issue 003, dated October 15, 2015.

(4) The following service information was approved for IBR on May 1, 2015 (84 FR 24789, May 1, 2015).

(i) Boeing Multi Operator Message MOM-MOM-15-0248-01B, dated April 19, 2015. The date appears only on the first page of this document.

(ii) Boeing Multi Operator Message MOM-MOM-15-0248-01B(R1), dated April 20, 2015. The date appears only on the first page of this document.

(5) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; internet <https://www.myboeingfleet.com>.

(6) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 25, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**FAA**  
**Aviation Safety**

## **AIRWORTHINESS DIRECTIVE**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

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**2018-20-16 Bombardier, Inc.:** Amendment 39-19450; Docket No. FAA-2018-0161; Product Identifier 2017-NM-088-AD.

**(a) Effective Date**

This AD is effective November 23, 2018.

**(b) Affected ADs**

This AD replaces AD 2013-11-12, Amendment 39-17472 (78 FR 33206, June 4, 2013) (“AD 2013-11-12”).

**(c) Applicability**

This AD applies to Bombardier, Inc., Model BD-100-1A10 airplanes, certificated in any category, having serial numbers 20003 through 20604 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 29, Hydraulic Power.

**(e) Reason**

This AD was prompted by reports of failure of a screw cap or end cap of the hydraulic system accumulator while on the ground, which resulted in loss of use of that hydraulic system and high-energy impact damage to adjacent systems and structures. We are issuing this AD to prevent failure of a screw cap or end cap and loss of the related hydraulic system, which could result in damage to airplane structure and consequent reduced controllability of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Retained Inspection With No Changes**

This paragraph restates the requirements of paragraph (g) of AD 2013-11-12 with no changes. For airplanes having serial numbers 20003 through 20335 inclusive: At the applicable time specified in paragraph (g)(1), (g)(2), or (g)(3) of this AD: Inspect the identification plate on the hydraulic system accumulator having part number (P/N) 900095-1 to determine if an “E” is part of the suffix of the serial number stamped on the identification plate, as listed in paragraph 2.B. of the Accomplishment Instructions of Bombardier Service Bulletin 100-29-14, dated December 16, 2010. A review of airplane maintenance records is acceptable in lieu of this inspection if the suffix of the serial number can be conclusively determined from that review.

(1) For an accumulator that has accumulated more than 3,150 total flight cycles as of July 9, 2013 (the effective date of AD 2013-11-12), inspect that accumulator within 350 flight cycles after July 9, 2013.

(2) For an accumulator that has accumulated 3,150 or fewer total flight cycles as of July 9, 2013 (the effective date of AD 2013-11-12), inspect that accumulator before it has accumulated 3,500 total flight cycles.

(3) For an accumulator on which it is not possible to determine the total flight cycles accumulated as of July 9, 2013 (the effective date of AD 2013-11-12), inspect that accumulator within 350 flight cycles after July 9, 2013.

**(h) Retained Replacement With No Changes**

This paragraph restates the requirements of paragraph (h) of AD 2013-11-12 with no changes. If, during the inspection required by paragraph (g) of this AD, any accumulator having P/N 900095-1 is found on which the letter “E” is not part of the suffix of the serial number on the identification plate: Before further flight, replace the accumulator with a new or serviceable accumulator, in accordance with paragraph 2.C. of the Accomplishment Instructions of Bombardier Service Bulletin 100-29-14, dated December 16, 2010.

**(i) Retained Parts Installation Prohibition With No Changes**

This paragraph restates the requirements of paragraph (i) of AD 2013-11-12 with no changes. For airplanes having serial numbers 20003 through 20335 inclusive: As of July 9, 2013 (the effective date of AD 2013-11-12), no person may install on any airplane a hydraulic system accumulator having P/N 900095-1, on which the letter “E” is not part of the suffix of the serial number on the identification plate.

**(j) New Requirement of This AD: Replacement of Brake System Hydraulic Accumulators**

For airplanes having serial numbers 20003 through 20347 inclusive: At the applicable time specified in paragraph (j)(1), (j)(2), or (j)(3) of this AD, replace all brake system hydraulic accumulators having P/N 33-147500 or P/N 33-155500 that are not identified by the letter “E” or “NAE” after the serial number on the identification plate with an accumulator of the same part number that is identified by the letter “E” or “NAE” after the serial number. Do the replacement in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-32-21, dated May 24, 2012.

(1) For an accumulator that has accumulated more than 4,700 total flight cycles as of the effective date of this AD, inspect that accumulator within 300 flight cycles after the effective date of this AD.

(2) For an accumulator that has accumulated 4,700 or fewer total flight cycles as of the effective date of this AD, inspect that accumulator before it has accumulated 5,000 total flight cycles.

(3) For an accumulator on which it is not possible to determine the total flight cycles accumulated as of the effective date of this AD, inspect that accumulator within 300 flight cycles after the effective date of this AD.

**(k) New Requirement of This AD: Additional Parts Installation Prohibition**

For airplanes having serial numbers 20003 through 20347 inclusive: As of the effective date of this AD, no person may install on any airplane a hydraulic system accumulator having P/N 33-147500 or P/N 33-155500, on which the letter “E” or “NAE” is not after the serial number on the identification plate.

**(l) New Requirement of This AD: Modification of the Inboard and Outboard Brake Accumulators**

For airplanes having serial numbers 20003 through 20395 inclusive: Within 1,600 flight hours or 14 months after the effective date of this AD, whichever occurs first, modify (re-orient) the installation of the inboard and outboard brake accumulators, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-32-20, Revision 02, dated April 14, 2015.

**(m) Credit for Previous Actions**

This paragraph provides credit for the actions specified in paragraph (l) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 100-32-20, dated February 25, 2013; or Revision 01, dated March 5, 2015.

**(n) New Requirement of This AD: Maintenance or Inspection Program Revision**

For airplanes having serial numbers 20003 through 20604 inclusive: Within 30 days after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate life limit tasks 29-21-13-101, 32-43-37-101, and 32-44-05-101 of Section 5-10-11 of Part 2, "Airworthiness Limitations", of Bombardier Challenger 300 BD-100 Time Limits/Maintenance Checks Manual, Revision 17, dated December 15, 2016; or Bombardier Challenger 350 BD-100 Time Limits/Maintenance Checks Manual, Revision 9, dated December 18, 2017, as applicable. The initial compliance time for the tasks is within the applicable time specified in that service information, or within 30 days after the effective date of this AD, whichever occurs later.

**(o) No Alternative Actions and Intervals**

After the maintenance or inspection program has been revised as required by paragraph (n) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (p)(1) of this AD.

**(p) Other FAA AD Provisions**

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone: 516-228-7300; fax: 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(q) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2011-41R1, dated March 27, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0161.

(2) For more information about this AD, contact Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone: 516-228-7318; fax: 516-794-5531.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (r)(5) and (r)(6) of this AD.

**(r) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(3) The following service information was approved for IBR on November 23, 2018.

(i) Bombardier Service Bulletin 100-32-20, Revision 02, dated April 14, 2015.

(ii) Bombardier Service Bulletin 100-32-21, dated May 24, 2012.

(iii) Bombardier Challenger 300 BD-100 Time Limits/Maintenance Checks Manual, Revision 17, dated December 15, 2016, Part 2, Airworthiness Limitations, Section 5-10-11:

(A) Task 29-21-13-101 Discard the Auxiliary Hydraulic System Accumulator, Part No. 900095-1;

(B) Task 32-43-37-101 Discard the Brake Accumulator, Part No. 33-147500;

(C) Task 32-44-05-101 Discard the Emergency/Parking Brake Accumulator, Part No. 33-155500.

(iv) Bombardier Challenger 350 BD-100 Time Limits/Maintenance Checks Manual, Revision 9, dated December 18, 2017, Part 2, Airworthiness Limitations, Section 5-10-11:

(A) Task 29-21-13-101 Discard the Auxiliary Hydraulic System Accumulator, Part No. 900095-1;

(B) Task 32-43-37-101 Discard the Brake Accumulator, Part No. 33-147500;

(C) Task 32-44-05-101 Discard the Emergency/Parking Brake Accumulator, Part No. 33-155500.

(4) The following service information was approved for IBR on July 9, 2013 (78 FR 33206, June 4, 2013).

(i) Bombardier Service Bulletin 100-29-14, dated December 16, 2010.

(ii) Reserved.

(5) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); internet <http://www.bombardier.com>.

(6) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 25, 2018.

John P. Piccola,

Acting Director, System Oversight Division, Aircraft Certification Service.



**2018-20-17 Bombardier, Inc.:** Amendment 39-19451; Docket No. FAA-2018-0587; Product Identifier 2018-NM-054-AD.

**(a) Effective Date**

This AD is effective November 20, 2018.

**(b) Affected ADs**

This AD replaces AD 2012-22-10, Amendment 39-17246 (77 FR 67267, November 9, 2012) (“AD 2012-22-10”).

**(c) Applicability**

This AD applies to the airplanes identified in paragraphs (c)(1), (c)(2), and (c)(3) of this AD, certificated in any category.

(1) Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, serial numbers 10002 and subsequent.

(2) Bombardier, Inc., Model CL-600-2D15 (Regional Jet Series 705) airplanes and Model CL-600-2D24 (Regional Jet Series 900) airplanes, serial numbers 15001 and subsequent.

(3) Bombardier, Inc., Model CL-600-2E25 (Regional Jet Series 1000) airplanes, serial numbers 19001 and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 57, Wings.

**(e) Reason**

This AD was prompted by a report that certain wing-to-fuselage attachment nuts do not conform to the certification design requirements for dual locking features, and a determination that additional nuts of the forward keel beam attachment joint should be inspected, and that repetitive inspections of certain wing-to-fuselage attachment joints are not necessary. We are issuing this AD to address loss of the wing-to-fuselage attachment joints, which could result in loss of the wing, and consequent reduced, or complete loss of, controllability of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Initial Inspection of the Wing-to-Fuselage Attachment Joint**

For airplanes identified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD: Within 3,000 flight hours or 18 months, whichever occurs first after December 14, 2012 (the effective date of AD 2012-

22-10), perform a detailed inspection for missing or failed cotter pins at each affected wing-to-fuselage attachment joint, in accordance with Part A through Part C of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-53-042, Revision B, dated October 20, 2017.

(1) Bombardier, Inc., Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, serial numbers 10002 through 10337 inclusive.

(2) Bombardier, Inc., Model CL-600-2D15 (Regional Jet Series 705) airplanes and Model CL-600-2D24 (Regional Jet Series 900) airplanes, serial numbers 15001 through 15299 inclusive.

(3) Bombardier, Inc., Model CL-600-2E25 (Regional Jet Series 1000) airplanes, serial numbers 19001 through 19037 inclusive.

#### **(h) Initial and Repetitive Inspections of the Attachment Nuts at the Forward Keel Beam Attachment Joint**

Within the compliance time specified in figure 1 to paragraph (h) of this AD: Perform a detailed inspection of the attachment nuts at the forward keel beam attachment joint for missing or failed cotter pins, in accordance with Part D of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-53-042, Revision B, dated October 20, 2017. Repeat the inspection thereafter at intervals not to exceed 8,800 flight hours, in accordance with Part E of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-53-042, Revision B, dated October 20, 2017.

**Figure 1 to Paragraph (h) of this AD –**  
*Compliance Time for Initial Inspection of Attachment Nuts at Forward Keel Beam Attachment Joint*

<b>Airplane Model and Serial Numbers (S/Ns)</b>	<b>Compliance Time</b>
Model CL-600-2C10 S/Ns 10002 through 10337 inclusive	Within 3,000 flight hours or 18 months, whichever occurs first after December 14, 2012 (the effective date of AD 2012-22-10)
Model CL-600-2C10 S/Ns 10338 and subsequent	Within 8,800 flight hours after the effective date of this AD
Model CL-600-2D15 and CL-600-2D24 S/Ns 15001 and subsequent	
Model CL-600-2E25 S/Ns 19001 and subsequent	

#### **(i) Corrective Action**

If any cotter pin is found missing or failed during any inspection required by this AD: Before further flight, replace the cotter pin using a method approved by the Manager, New York ACO Branch FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

#### **(j) Credit for Previous Actions**

This paragraph provides credit for the inspections required by paragraphs (g) and (h) of this AD, if the inspection was performed before the effective date of this AD, using Bombardier Service Bulletin 670BA-53-042, dated December 21, 2011; or Bombardier Service Bulletin 670BA-53-042, Revision A, dated April 27, 2012.

**(k) Other FAA AD Provisions**

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone: 516-228-7300; fax: 516-794-5531.

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(ii) AMOCs approved previously for AD 2012-22-10, are approved as AMOCs for the corresponding provisions in paragraphs (g) and (h) of this AD.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

**(l) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2012-10R1, dated January 22, 2018, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0587.

(2) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7330; fax 516-794-5531.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(3) and (m)(4) of this AD.

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 670BA-53-042, Revision B, dated October 20, 2017.

(ii) Reserved.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 514-855-5000; fax 514-855-7401; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 25, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,





**2018-20-18 Bombardier, Inc.:** Amendment 39-19452; Docket No. FAA-2018-0449; Product Identifier 2018-NM-042-AD.

**(a) Effective Date**

This AD is effective November 20, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc., Model DHC-8-400, -401, and -402 airplanes, certificated in any category, serial numbers 4001 and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight controls.

**(e) Reason**

This AD was prompted by a report of uncommanded deployment of the ground spoilers when the power levers were advanced for takeoff, which was caused by faulty switches in the power lever module. We are issuing this AD to address faulty switches in the power lever module, which could result in uncommanded deployment of the ground spoilers and a possible runway excursion.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Revision of Maintenance or Inspection Program**

Within 30 days after the effective date of this AD: Revise the maintenance or inspection program, as applicable, to incorporate the information specified in Certification Maintenance Requirements (CMR) Task 276000-110 of Q400 Dash 8 (Bombardier) Temporary Revision ALI-0173, dated March 14, 2017.

**(h) Initial Compliance Time**

The initial compliance time for doing the CMR Task 276000-110 specified in paragraph (g) of this AD is within 8,000 flight hours after the effective date of this AD.

**(i) No Alternative Actions or Intervals**

After the maintenance or inspection program has been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j)(1) of this AD.

**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(k) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2017-35, dated November 29, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0449.

(2) For more information about this AD, contact John P. DeLuca, Aerospace Engineer, Avionics and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7369; fax 516-794-5531; email [9-avs-nyacos@faa.gov](mailto:9-avs-nyacos@faa.gov).

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Q400 Dash 8 (Bombardier) Temporary Revision ALI-0173, dated March 14, 2017.

(ii) Reserved.

(3) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 20, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-20-19 Airbus SAS:** Amendment 39-19453; Docket No. FAA-2018-0583; Product Identifier 2018-NM-019-AD.

**(a) Effective Date**

This AD is effective November 20, 2018.

**(b) Affected ADs**

This AD replaces AD 2017-16-07, Amendment 39-18984 (82 FR 41874, September 5, 2017) (“AD 2017-16-07”).

**(c) Applicability**

This AD applies to the following Airbus SAS airplanes, certificated in any category, manufacturer serial numbers (MSNs) 0001 to 1779 inclusive; except airplanes on which Airbus Service Bulletin A330-53-3275 or Airbus Service Bulletin A340-53-4238 has been embodied.

- (1) Model A330-201, -202, -203, -223, and -243 airplanes.
- (2) Model A330-223F and -243F airplanes.
- (3) Model A330-301, -302, -303, -321, -322, -323, -341, -342, and -343 airplanes.
- (4) Model A340-211, -212, and -213 airplanes.
- (5) Model A340-311, -312, and -313 airplanes.

**(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Reason**

This AD is prompted by a determination that only airplanes having certain MSNs are affected by tartaric sulfuric anodizing (TSA)/chromic acid anodizing (CAA) surface treatment in the door fitting attachment holes, and that airplanes having certain MSNs were excluded from AD 2017-16-07. This AD is intended to complete certain mandated programs intended to support the airplane reaching its limit of validity (LOV) of the engineering data that support the established structural maintenance program. We are issuing this AD to detect and correct fatigue cracks in the bulk cargo door frames, caused by TSA/CAA surface treatment in certain bulk cargo door frame holes. Cracks in the bulk cargo door frames can cause the in-flight loss of a bulk cargo door, damage to the airplane, and subsequent reduced control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Repetitive Inspections**

Before exceeding the thresholds specified in table 1 to paragraph (g) of this AD, or within the applicable time specified in paragraph (g)(1) or (g)(2) of this AD, whichever is later: Do a rototest, high frequency eddy current (HFEC), ultrasonic, or detailed inspection, as applicable, for residual surface treatment and cracking of the upper and lower right-hand fuselage bulk cargo door support fitting attachment holes at FR 67 and FR 69 and the right-hand fuselage bulk cargo door latch fitting attachment holes at FR 69, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A330-53-3278, dated August 22, 2017; or Airbus Service Bulletin A340-53-4239, dated September 5, 2017; as applicable. Thereafter, depending on the areas and inspection methods as defined in table 2 to paragraph (g) of this AD, repeat the inspection at intervals not exceeding those specified in table 3 to paragraph (g) of this AD.

(1) For airplanes having MSN 0001 through 0399 inclusive: Within 200 flight cycles after the effective date of this AD.

(2) For airplanes having MSN 0400 through 1779 inclusive: Within 800 flight cycles after the effective date of this AD.

**Table 1 to paragraph (g) of this AD – Initial Inspection**

Affected Airplanes	MSN	Operation: Short-range (SR); Long-range (LR)*	Inspection Threshold (flight cycles [FC] or flight hours [FH], whichever occurs first, since airplane first flight)
A330 (except -200F), A340-200, and A340-300	0001 to 0399 inclusive	SR	27,100 FC or 83,900 FH
		LR	23,600 FC or 133,100 FH
A330 (except -200F), A340-200, and A340-300	0400 to 1779 inclusive	SR	16,000 FC or 49,500 FH
		LR	13,900 FC or 78,600 FH
A330-223F and -243F	All	SR or LR	11,300 FC or 34,000 FH

\*Guidance for determining whether an airplane is operated in short-range or long-range operations can be found in Airbus Operator Information Telex 999.0086/11.

**Table 2 to paragraph (g) of this AD – Areas and Inspection Methods**

Action	Areas to be Inspected	Inspection Methods*
1	Any	Detailed
2	Upper and lower door support fitting holes	Rototest
	Latch fitting holes	HFEC
3	Upper door support fitting hole	HFEC and ultrasonic

\*The inspection interval, as specified in table 3 to paragraph (g) of this AD, is based on the kind of inspection (action) applied to an area, along with the airplane model. Alternating between inspection methods is allowed, provided that the applicable inspection interval is based on the method used during the latest inspection.

**Table 3 to paragraph (g) of this AD – Inspection Intervals**

<b>Action/ Area(s)</b>	<b>Affected Airplanes</b>	<b>Operation: Short- range (SR); Long-range (LR)*</b>	<b>Inspection Interval (FC or FH, whichever occurs first)</b>
1	All	SR or LR	150 FC
2	A330 (except -200F), A340-200, and A340-300	SR	3,300 FC or 10,300 FH
		LR	2,900 FC or 16,400 FH
	A330-223F and -243F	SR or LR	2,700 FC or 8,300 FH
3	A330 (except -200F), A340-200, and A340-300	SR	1,700 FC or 6,100 FH
		LR	1,400 FC or 8,400 FH
	A330-223F and -243F	SR or LR	1,700 FC or 5,200 FH

\*Guidance for determining whether an airplane is operated in short-range or long-range operations can be found in Airbus Operator Information Telex 999.0086/11.

**(h) Corrective Action**

If any discrepancy is found during any inspection required by paragraph (g) of this AD, before further flight, repair using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or Airbus SAS's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

**(i) Non-Terminating Action for Repairs**

Accomplishment of a repair on an airplane, as required by paragraph (h) of this AD, does not constitute terminating action for the inspections required by paragraph (g) of this AD for that airplane, unless otherwise specified in repair instructions approved by the Manager, International Section, Transport Standards Branch, FAA; or EASA; or Airbus SAS's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(j) Optional Terminating Action**

Accomplishment of the modification, including applicable related investigative and corrective actions and removal of TSA or CAA in the final holes of the bulk door frames FR 67 and FR 69, as applicable, specified in, and in accordance with the AI of Airbus Service Bulletin A330-53-3275, dated September 8, 2017; or Airbus Service Bulletin A340-53-4238, dated September 8, 2017; as applicable; constitutes terminating action for the inspections required by paragraph (g) of this AD for that airplane, unless otherwise specified in the repair instructions approved by the Manager, International Section, Transport Standards Branch, FAA; or EASA; or Airbus SAS's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(k) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Airbus Alert Operators Transmission (AOT) A53L012-16, dated May 30, 2016; or Rev 01, dated March 9, 2017.

### **(l) Other FAA AD Provisions**

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Section, send it to the attention of the person identified in paragraph (m)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: As of the effective date of this AD, for any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the EASA; or Airbus SAS's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

### **(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2018-0005, dated January 10, 2018, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0583.

(2) For more information about this AD, contact Vladimir Ulyanov, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3229.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(3) and (n)(4) of this AD.

### **(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Airbus Service Bulletin A330-53-3275, dated September 8, 2017.

(ii) Airbus Service Bulletin A330-53-3278, dated August 22, 2017.

(iii) Airbus Service Bulletin A340-53-4238, dated September 8, 2017.

(iv) Airbus Service Bulletin A340-53-4239, dated September 5, 2017.

(3) For service information identified in this AD, contact Airbus SAS, Airworthiness Office—EAL, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com); internet <http://www.airbus.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 26, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,

Aircraft Certification Service.



**2018-20-20 Bombardier, Inc.:** Amendment 39-19454; Docket No. FAA-2018-0397; Product Identifier 2017-NM-163-AD.

**(a) Effective Date**

This AD is effective November 20, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes, certificated in any category, serial numbers 9492 through 9711 inclusive, 9713 through 9717 inclusive, 9719 through 9726 inclusive, 9728, 9730, 9732, 9733, 9743, and 9751.

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight controls.

**(e) Reason**

This AD was prompted by a report of cracking at the fastener holes of the left-hand-side support bracket of the elevator bell crank for the control linkage in the vertical stabilizer. We are issuing this AD to address any cracking in the support bracket of the elevator bell crank, which could lead to detachment of the bracket and loss of functionality of the elevator on the affected side, and result in reduced controllability of the airplane. Failure of both brackets could result in loss of pitch control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection, Measurement, and Corrective Action**

Within 60 months after the effective date of this AD, or before accumulating 7,500 total flight cycles, whichever occurs first: Do an eddy current inspection of the support brackets of the elevator bell crank, part number (P/N) GD248-8750-3 and P/N GD248-8750-4, for any cracking at the fastener holes, and do a measurement to confirm that the fastener hole diameters are within tolerance, as applicable, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 700-27-5009, Revision 02, dated June 15, 2018 (for Model BD-700-1A11 airplanes); or Bombardier Service Bulletin 700-27-6009, Revision 01, dated July 18, 2017 (for Model BD-700-1A10 airplanes). If any cracking is found or if any fastener hole is out of tolerance, before further flight, replace with a

new support bracket, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 700-27-5009, Revision 02, dated June 15, 2018 (for Model BD-700-1A11 airplanes); or Bombardier Service Bulletin 700-27-6009, Revision 01, dated July 18, 2017 (for Model BD-700-1A10 airplanes).

#### **(h) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraphs (h)(1), (h)(2), and (h)(3), as applicable.

- (1) Bombardier Service Bulletin 700-27-5009, dated May 29, 2017.
- (2) Bombardier Service Bulletin 700-27-5009, Revision 01, dated July 18, 2017.
- (3) Bombardier Service Bulletin 700-27-6009, dated May 29, 2017.

#### **(i) Other FAA AD Provisions**

The following provisions also apply to this AD:

- (1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.
- (2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

#### **(j) Related Information**

- (1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2017-32, dated October 10, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0397.
- (2) For more information about this AD, contact Aziz Ahmed, Aerospace Engineer, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone: 516-287-7329; fax: 516-794-5531; email: Aziz.Ahmed@faa.gov.
- (3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (k)(3) and (k)(4) of this AD.

#### **(k) Material Incorporated by Reference**

- (1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.
- (2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.
  - (i) Bombardier Service Bulletin 700-27-5009, Revision 02, dated June 15, 2018.
  - (ii) Bombardier Service Bulletin 700-27-6009, Revision 01, dated July 18, 2017.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 27, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-20-21 Bombardier, Inc.:** Amendment 39-19455; Docket No. FAA-2018-0550; Product Identifier 2018-NM-024-AD.

**(a) Effective Date**

This AD is effective November 20, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to certain Bombardier, Inc., Model CL-600-2B16 (CL-604 Variants) airplanes, certificated in any category, serial numbers 5301 through 5665 inclusive, 5701 through 5988 inclusive, and 6050 through 6070 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 33, Lights.

**(e) Reason**

This AD was prompted by reports of floodlight lamps found burned and the corresponding circuit breaker tripped as a result of fluid entering the cockpit floodlight fixtures. We are issuing this AD to address fluid entering the cockpit floodlight fixtures, which could cause short circuits and damage to electrical components, which may result in a fire in the cockpit.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) For airplanes identified in Bombardier Service Bulletin 604-33-007, Revision 02, dated October 2, 2017: Within 38 months after the effective date of this AD, install new gasket seals in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 604-33-007, Revision 02, dated October 2, 2017.

(2) For airplanes identified in Bombardier Service Bulletin 605-33-005, Revision 02, dated October 2, 2017: Within 38 months after the effective date of this AD, install new gasket seals in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 605-33-005, Revision 02, dated October 2, 2017.

(3) For airplanes identified in Bombardier Service Bulletin 650-33-001, Revision 03, dated October 2, 2017: Within 38 months after the effective date of this AD, install new gasket seals,

Modification Summary 600-6537, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 650-33-001, Revision 03, dated October 2, 2017.

### **(h) Credit for Previous Actions**

(1) This paragraph provides credit for actions required by (g)(1), if those actions were performed before the effective date using Bombardier Service Bulletin 604-33-007, dated September 29, 2015; or Bombardier Service Bulletin 604-33-007, Revision 01, dated November 30, 2015.

(2) This paragraph provides credit for actions required by (g)(2), if those actions were performed before the effective date using Bombardier Service Bulletin 605-33-005, dated September 29, 2015; or Bombardier Service Bulletin 605-33-005, Revision 01, dated November 30, 2015.

(3) This paragraph provides credit for actions required by (g)(3), if those actions were performed before the effective date using the service information specified in paragraphs (h)(3)(i), (h)(3)(ii), or (h)(3)(iii) of this AD.

(i) Bombardier Service Bulletin 650-33-001, dated October 1, 2015.

(ii) Bombardier Service Bulletin 650-33-001, Revision 01, dated November 30, 2015.

(iii) Bombardier Service Bulletin 650-33-001, Revision 02, dated March 11, 2016.

### **(i) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

### **(j) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2016-40, dated December 15, 2016; and Canadian AD CF-2018-06, dated February 19, 2018, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0550.

(2) For more information about this AD, contact Steven Dzierzynski, Aerospace Engineer, Avionics and Electrical Systems Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; fax 516-794-5531; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (k)(3) and (k)(4) of this AD.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 604-33-007, Revision 02, dated October 2, 2017.

(ii) Bombardier Service Bulletin 605-33-005, Revision 02, dated October 2, 2017.

(iii) Bombardier Service Bulletin 650-33-001, Revision 03, dated October 2, 2017.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; fax 514-855-7401; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 27, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-20-22 General Electric Company:** Amendment 39-19456; Docket No. FAA-2018-0898; Product Identifier 2018-NE-29-AD.

**(a) Effective Date**

This AD is effective November 13, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

(1) This AD applies to General Electric Company (GE) GE90-110B1, GE90-113B, and GE90-115B turbofan engines with a case combustor assembly (combustion case), part number (P/N) 2063M37G01 or 2082M19G04, installed with combustion case serial number (S/N) listed in:

(i) Table 1 in paragraph 1.A., Planning Information, of GE GE90-100 Service Bulletin (SB) S/B 72-0788, Revision 4, dated July 30, 2018; or

(ii) Paragraph 1.A, Table 1 of GE SB GE90-100 SB 72-0793 R00, dated August 10, 2018; or

(iii) Paragraph 1.A., Planning Information, of GE SB GE90-100 SB 72-0784 R00, dated May 4, 2018.

(2) [Reserved.]

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

**(e) Unsafe Condition**

This AD was prompted by the discovery of a quality escape at a manufacturing facility involving unapproved welds on combustion cases. We are issuing this AD to prevent failure of the combustion case. The unsafe condition, if not addressed, could result in engine fire and damage to the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) For combustion cases listed in Planning Information, Table 1, paragraph 1.A. of GE SB GE90-100 S/B 72-0788, Revision 4, dated July 30, 2018, except combustion cases with S/Ns FDBK3717, FDBK3872, or FDBK4849, remove the affected cases from service, using the cycles specified in Table 1 to paragraph (g) of this AD.

**Table 1 to Paragraph (g) of this AD – Compliance Times**

<b>Cycles Since New (CSN) of combustion case on Effective Date of this AD</b>	<b>Remove from Service (cycles after the effective date of this AD)</b>
Less than 1000	150 cycles
1001 to 2000	125 cycles
2001 to 3000	100 cycles
3001 to 4000	75 cycles
4001 to 5000	50 cycles
5001 or more	25 cycles

(2) For combustion cases with S/Ns listed in Table 3, paragraph 1.C., Planning Information, of GE SB GE90-100 S/B 72-0788, Revision 4, dated July 30, 2018, remove the affected cases from service before exceeding the Maximum In-Service CSN listed in Table 3, of GE SB GE90-100 S/B 72-0788, Revision 4, dated July 30, 2018.

(3) For combustion cases with S/Ns listed in paragraph 1.A., Planning Information, of GE SB GE90-100 SB 72-0784 R00, dated May 4, 2018, remove the affected cases from service within 10 cycles in service from the effective date of this AD.

(4) For combustion cases with S/Ns listed in Table 1, paragraph 1.A., Planning Information, of GE SB GE90-100 SB 72-0793 R00, dated August 10, 2018, remove the affected cases from service at the next engine shop visit.

(5) Replace the removed combustion case with a part eligible for installation before further flight.

#### **(h) Definitions**

(1) For the purpose of this AD, an “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges, except that the separation of engine flanges solely for the purposes of transportation of the engine, without subsequent engine maintenance, does not constitute an engine shop visit.

(2) For the purpose of this AD, a “part eligible for installation” is any combustion case not identified in paragraph (c)(1) of this AD or a combustion case listed in this AD that has been inspected and repaired by a method approved by the Manager, ECO Branch, FAA.

#### **(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(j) Related Information**

For more information about this AD, contact Matthew Smith, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7735; fax: 781-238-7199; email: matthew.c.smith@faa.gov.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) General Electric Company (GE) GE90-100 Service Bulletin (SB) SB 72-0784 R00, dated May 4, 2018.

(ii) GE SB GE90-100 S/B 72-0788, Revision 4, dated July 30, 2018.

(iii) GE SB GE90-100 SB 72-0793 R00, dated August 10, 2018.

(3) For service information identified in this AD, contact General Electric Company, GE Aviation, 1 Neumann Way, Cincinnati, OH 45215; telephone 513-552-3272; email: aviation.fleetsupport@ge.com.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on October 18, 2018.

Karen M. Grant,  
Acting Manager, Engine and Propeller Standards Branch,  
Aircraft Certification Service.



**2018-20-23 General Electric Company:** Amendment 39-19457; Docket No. FAA-2018-0406; Product Identifier 2013-NE-30-AD.

**(a) Effective Date**

This AD is effective November 30, 2018.

**(b) Affected ADs**

This AD replaces AD 2017-07-04, Amendment 39-18842 (82 FR 16728, April 6, 2017).

**(c) Applicability**

This AD applies to General Electric Company (GE) GE90-110B1 and GE90-115B turbofan engines with HPC rotor stage 2-5 spools, with:

(1) A serial number (S/N) listed in either, paragraph 4, Appendix A of GE Service Bulletin (SB) No. GE90-100 SB 72-0499 R01, dated February 5, 2014; in paragraph 4, Appendix A of GE SB GE90-100 SB 72-0659 R01, dated February 18, 2016; or in paragraph 4, Appendix A, of GE SB GE90-100 S/B 72-0714, Revision 01, dated February 16, 2018.

(2) A part number (P/N) 351-103-109-0, P/N 351-103-110-0, P/N 351-103-147-0 or P/N 351-103-152-0, with any S/N.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

**(e) Unsafe Condition**

This AD was prompted by reports of cracks in HPC rotor stage 2-5 spool aft spacer arms. We are issuing this AD to prevent failure of the HPC rotor stage 2-5 spools. The unsafe condition, if not addressed, could result in uncontained spool release, damage to the engine, and damage to the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) Remove from service HPC rotor stage 2-5 spools with S/Ns listed in paragraph 4, Appendix A, of GE SB GE90-100 SB 72-0659 R01, dated February 18, 2016, as follows, or before further flight, whichever occurs later:

(i) For spools with fewer than 4,500 flight cycles since new (CSN) as of April 21, 2017, remove before exceeding 5,000 CSN.

(ii) For spools with 4,500 CSN or more but fewer than 5,200 CSN as of April 21, 2017, remove within 500 CIS but not to exceed 5,500 CSN.

(iii) For spools with 5,200 CSN or more but fewer than 5,600 CSN as of April 21, 2017, remove within 300 CIS but not to exceed 5,800 CSN.

(iv) For spools with 5,600 CSN or more but fewer than 5,800 CSN as of April 21, 2017, remove within 200 CIS but not to exceed 5,850 CSN.

(v) For spools with 5,800 CSN or more but fewer than 6,000 CSN as of April 21, 2017, remove within 50 CIS but not to exceed 6,000 CSN.

(vi) For spools with 6,000 CSN or more as of April 21, 2017, remove before the next flight.

(2) Remove from service HPC rotor stage 2-5 spools listed in paragraph (c)(2) of this AD and HPC rotor stage 2-5 spools with S/Ns listed in paragraph 4, Appendix A, of GE SB GE90-100 S/B 72-0714, Revision 01, dated February 16, 2018, before exceeding 8,200 CSN, or before further flight, whichever occurs later.

#### **(h) Installation Prohibition**

(1) After the effective date of this AD, do not install or reinstall onto any engine, any HPC rotor stage 2-5 spool with an S/N listed in paragraph 4, Appendix A, of GE SB No. GE90-100 SB 72-0499 R01, dated February 5, 2014, or paragraph 4, Appendix A, of GE SB GE90-100 SB72-0659 R01, dated February 18, 2016, that exceeds 5,000 CSN.

(2) After the effective date of this AD, do not install or reinstall onto any engine, any HPC rotor stage 2-5 spool listed in paragraph (c)(2) of this AD, or HPC rotor stage 2-5 spool with an S/N listed in paragraph 4, Appendix A, of GE SB GE90-100 S/B 72-0714, Revision 01, dated February 16, 2018, that exceeds 8,200 CSN.

#### **(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

#### **(j) Related Information**

For more information about this AD, contact David Bethka, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7129; fax: 781-238-7199; email: david.bethka@faa.gov.

#### **(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on November 30, 2018.

(i) General Electric Company (GE) Service Bulletin (SB) GE90-100 SB 72-0499 R01, dated February 5, 2014.

(ii) GE SB GE90-100 S/B 72-0714, Revision 01, dated February 16, 2018.

(4) The following service information was approved for IBR on April 21, 2017 (82 FR 16728, April 6, 2017).

(i) GE SB GE90-100 SB 72-0659 R01, dated February 18, 2016.

(ii) [Reserved.]

(5) For service information identified in this AD, contact General Electric Company, 1 Neumann Way, Room 285, Cincinnati, OH 45215; phone: 513-552-3272; email: geae.aoc@ge.com.

(6) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on October 17, 2018.

Karen M. Grant,  
Acting Manager, Engine and Propeller Standards Branch,  
Aircraft Certification Service.



**FAA**  
**Aviation Safety**

# **AIRWORTHINESS DIRECTIVE**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

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**2018-20-24 The Boeing Company:** Amendment 39-19458; Docket No. FAA-2017-0814; Product Identifier 2017-NM-066-AD.

**(a) Effective Date**

This AD is effective November 19, 2018.

**(b) Affected ADs**

This AD affects the ADs specified in paragraphs (b)(1) through (b)(5) of this AD.

(1) AD 2008-06-03, Amendment 39-15415 (73 FR 13081, March 12, 2008) (“AD 2008-06-03”).

(2) AD 2008-10-10 R1, Amendment 39-16164 (75 FR 1529, January 12, 2010) (“AD 2008-10-10 R1”).

(3) AD 2008-17-15, Amendment 39-15653 (73 FR 50714, August 28, 2008) (“AD 2008-17-15”).

(4) AD 2011-18-03, Amendment 39-16785 (76 FR 53317, August 26, 2011) (“AD 2011-18-03”).

(5) AD 2013-15-17, Amendment 39-17533 (78 FR 52838, August 27, 2013) (“AD 2013-15-17”).

**(c) Applicability**

This AD applies to The Boeing Company Model 737-600, -700, -700C, -800, -900, and -900ER series airplanes, certificated in any category, line numbers 1 through 6899 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 28, Fuel.

**(e) Unsafe Condition**

This AD was prompted by significant changes made to airworthiness limitations (AWL) related to fuel tank ignition prevention and the nitrogen generation system. We are issuing this AD to address the development of an ignition source inside the fuel tanks and the flammability exposure of the center fuel tank, which could lead to a fuel tank explosion and consequent loss of the airplane. We are also issuing this AD to address the potential loss of engine fuel suction feed capability, which could result in dual engine flameouts, inability to restart engines, and consequent forced landing of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Revision of Maintenance or Inspection Program**

Within 60 days after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate the information in Section A, including Subsections A.1, A.2, and A.3,

of Boeing 737-600/700/700C/800/900/900ER Special Compliance Items/Airworthiness Limitations, D626A001-9-04, Revision January 2017; except as provided in paragraph (h) of this AD. The initial compliance times for the airworthiness limitation instructions (ALI) tasks are within the applicable compliance times specified in paragraphs (g)(1) through (g)(11) of this AD:

(1) For AWL No. 28-AWL-01, “External Wires Over Center Fuel Tank”: Within 120 months after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, or within 120 months after the most recent inspection was performed as specified in AWL No. 28-AWL-01, whichever is later.

(2) For AWL No. 28-AWL-03, “Fuel Quantity Indicating System (FQIS)–Out Tank Wiring Lightning Shield to Ground Termination”: Within 120 months after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, or within 120 months after the most recent inspection was performed as specified in AWL No. 28-AWL-03, whichever is later.

(3) For AWL No. 28-AWL-19, “Center Tank Fuel Boost Pump Automatic Shutoff System”: Within 12 months after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, within 12 months after accomplishment of the actions specified in Boeing Service Bulletin 737-28A1206, or within 12 months after the most recent inspection was performed as specified in AWL No. 28-AWL-19, whichever is latest. This AWL does not apply to airplanes that have complied with paragraph (s) of AD 2011-18-03.

(4) For AWL No. 28-AWL-20, “Over-Current and Arcing Protection Electrical Design Features Operation–Boost Pump Ground Fault Interrupter (GFI)”: Within 12 months after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, within 12 months after accomplishment of the actions specified in Boeing Service Bulletin 737-28A1201, or within 12 months after the most recent inspection was performed as specified in AWL No. 28-AWL-20, whichever is latest. For airplanes that have complied with paragraph (g)(2)(ii) of AD 2011-20-07, Amendment 39-16818 (76 FR 60710, September 30, 2011), the operational test for left center tank fuel boost pump relay R54 and right center tank fuel boost pump relay R55 does not apply.

(5) For AWL No. 28-AWL-23, “Center Tank Fuel Boost Pump Power Failed On Protection System”: Within 12 months after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, within 12 months after accomplishment of the actions specified in Boeing Service Bulletin 737-28A1248, or within 12 months after the most recent inspection was performed as specified in AWL No. 28-AWL-23, whichever is latest. This AWL does not apply to airplanes that have complied with paragraph (s) of AD 2011-18-03.

(6) For AWL No. 28-AWL-24, “Spar Valve Motor Operated Valve (MOV) Actuator–Lightning and Fault Current Protection Electrical Bond”: Within 72 months after accomplishment of the actions specified in Boeing Service Bulletin 737-28A1207, or within 72 months after the most recent inspection was performed as specified in AWL No. 28-AWL-24, whichever is later.

(7) For AWL No. 28-AWL-29, “Full Cushion Clamps and Teflon Sleeving (If Installed) Installed on Out-of-Tank Wire Bundles Installed on Brackets that are Mounted Directly on the Fuel Tanks”: For airplanes having line numbers (L/N) 1 through 1754 inclusive, within 120 months after accomplishment of the actions specified in Boeing Service Bulletin 737-57A1279, or within 24 months after the effective date of this AD, whichever is later. For airplanes having L/N 1755 and on, within 120 months after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, or within 24 months after the effective date of this AD, whichever is later.

(8) For AWL No. 47-AWL-04, “Nitrogen Generation System–Thermal Switch”: Within 22,500 flight hours after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, within 22,500 flight hours after accomplishment of the actions specified in Boeing Service Bulletin 737-47-1003, or within 22,500

flight hours after the most recent inspection was performed as specified in AWL No. 47-AWL-04, whichever is latest.

(9) For AWL No. 47-AWL-06, “Nitrogen Generation System (NGS)–Cross Vent Check Valve”: Within 13,000 flight hours after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, within 13,000 flight hours after accomplishment of the actions specified in Boeing Service Bulletin 737-47-1003, or within 13,000 flight hours after the most recent inspection was performed as specified in AWL No. 47-AWL-06, whichever is latest.

(10) For AWL No. 47-AWL-07, “Nitrogen Generation System (NGS)–Nitrogen Enriched Air (NEA) Distribution Ducting Integrity”: Within 6,500 flight hours after the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness, within 6,500 flight hours after accomplishment of the actions specified in Boeing Service Bulletin 737-47-1003, or within 6,500 flight hours after the most recent inspection was performed as specified in AWL No. 47-AWL-07, whichever is latest.

(11) For AWL No. 28-AWL-101, “Engine Fuel Suction Feed Operational Test”: Within 7,500 flight hours or 36 months, whichever occurs first, after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness; or within 7,500 flight hours or 36 months, whichever occurs first, after the most recent inspection was performed as specified in AWL No. 28-AWL-101; whichever is later.

#### **(h) Additional Acceptable Wire Types and Sleeving**

As an option, when accomplishing the actions required by paragraph (g) of this AD, the changes specified in paragraphs (h)(1) and (h)(2) of this AD are acceptable.

(1) Where AWL No. 28-AWL-05 identifies wire types BMS 13-48, BMS 13-58, and BMS 13-60, the following wire types are acceptable: MIL-W-22759/16, SAE AS22759/16 (M22759/16), MIL-W-22759/32, SAE AS22759/32 (M22759/32), MIL-W-22759/34, SAE AS22759/34 (M22759/34), MIL-W-22759/41, SAE AS22759/41 (M22759/41), MIL-W-22759/86, SAE AS22759/86 (M22759/86), MIL-W-22759/87, SAE AS22759/87 (M22759/87), MIL-W-22759/92, and SAE AS22759/92 (M22759/92); and MIL-C-27500 and NEMA WC 27500 cables constructed from these military or SAE specification wire types, as applicable.

(2) Where AWL No. 28-AWL-05 identifies TFE-2X Standard wall for wire sleeving, the following sleeving materials are acceptable: Roundit 2000NX and Varglas Type HO, HP, or HM.

#### **(i) No Alternative Actions, Intervals, and Critical Design Configuration Control Limitations (CDCCLs)**

Except as provided in paragraph (h) of this AD, after the maintenance or inspection program, as applicable, has been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections), intervals, and CDCCLs may be used unless the actions, intervals, and CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (k) of this AD.

#### **(j) Terminating Actions for Certain AD Requirements**

Accomplishment of the revision required by paragraph (g) of this AD terminates the requirements specified in paragraphs (j)(1) through (j)(5) of this AD for that airplane:

- (1) The revision required by paragraphs (h) and (h)(1) of AD 2008-06-03.
- (2) All requirements of AD 2008-10-10 R1.
- (3) The revision required by paragraph (g) of AD 2008-17-15.
- (4) The revision required by paragraph (k) of AD 2011-18-03.
- (5) All requirements of AD 2013-15-17.

### **(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

### **(l) Related Information**

For more information about this AD, contact Tak Kobayashi, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3553; email: takahisa.kobayashi@faa.gov.

### **(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing 737-600/700/700C/800/900/900ER Special Compliance Items/Airworthiness Limitations, D626A001-9-04, Revision January 2017.

(ii) Reserved.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 19, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-21-01 Honeywell International Inc.:** Amendment 39-19459; Docket No. FAA-2017-1116; Product Identifier 2016-NE-32-AD.

**(a) Effective Date**

This AD is effective November 19, 2018.

**(b) Affected ADs**

This AD replaces AD 2017-20-06, Amendment 39-19063 (82 FR 46379, October 5, 2017).

**(c) Applicability**

This AD applies to Honeywell International Inc. (Honeywell) AS907-1-1A turbofan engines with second stage low-pressure turbine (LPT2) rotor blades, part number 3035602-1, installed, that have more than 8,000 hours since new on November 9, 2017 (the effective date of AD 2017-20-06).

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7250 Turbine Section.

**(e) Unsafe Condition**

This AD was prompted by reports of loss of power due to failure of the LPT2 blade. We are issuing this AD to prevent failure of the LPT2 blades. The unsafe condition, if not corrected, could result in failure of one or more engines and loss of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

Within 200 hours time in service after the effective date of this AD, do the following:

(1) Perform a one-time borescope inspection for wear of the Z gap contact area at the blade tip shroud for each of the 62 LPT2 rotor blades. Use the Accomplishment Instructions, Paragraph 3.B.(1), of Honeywell Service Bulletin (SB) AS907-72-9067, Revision 1, dated March 20, 2017, to do the inspection.

(2) If the measured wear and/or fretting of any Z gap contact area is greater than 0.005 inch, replace the LPT2 rotor assembly with a part eligible for installation before further flight.

(3) Using a borescope, make a clear digital image of the Z gap contact area at the blade tip shroud of the 62 LPT2 rotor blades, and do the following:

(i) Identify the three Z gap contact areas with the greatest amount of wear and/or fretting.

(ii) Record the blade position on the LPT2 rotor assembly and the measured wear of the three Z gap contact areas with the greatest amount of wear and/or fretting.

(iii) Send the results to Honeywell at [engine.reliability@honeywell.com](mailto:engine.reliability@honeywell.com) within 30 days after completing these actions.

#### **(h) Credit for Previous Actions**

You may take credit for the actions required by paragraphs (g)(1) and (2) of this AD if you performed these actions before the effective date of this AD using Honeywell SB AS907-72-9067, Revision 0, dated December 12, 2016.

#### **(i) Paperwork Reduction Act Burden Statement**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

#### **(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Los Angeles ACO Branch, FAA, may approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the Los Angeles ACO Branch, send it to the attention of the person identified in paragraph (k) of this AD. You may email your request to: [9-ANM-LAACO-AMOC-REQUESTS@faa.gov](mailto:9-ANM-LAACO-AMOC-REQUESTS@faa.gov).

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

#### **(k) Related Information**

For more information about this AD, contact Joseph Costa, Aerospace Engineer, Los Angeles ACO Branch, FAA, 3960 Paramount Blvd., Lakewood, CA 90712-4137; phone: 562-627-5246; fax: 562-627-5210; email: [joseph.costa@faa.gov](mailto:joseph.costa@faa.gov).

#### **(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on November 9, 2017 (82 FR 46379, October 5, 2017).

(i) Honeywell Service Bulletin AS907-72-9067, Revision 1, dated March 20, 2017.

(ii) Reserved.

(4) For Honeywell service information identified in this AD, contact Honeywell International Inc., 111 S 34th Street, Phoenix, AZ 85034-2802; phone: 800-601-3099; internet: <https://myaerospace2.honeywell.com/wps/portal>.

(5) You may view this service information at FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(6) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on October 3, 2018.

Robert J. Ganley,  
Manager, Engine and Propeller Standards Branch,  
Aircraft Certification Service.



**2018-21-03 Bombardier, Inc.:** Amendment 39-19461; Docket No. FAA-2018-0546; Product Identifier 2017-NM-171-AD.

**(a) Effective Date**

This AD is effective November 19, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes, certificated in any category, serial numbers 9002 through 9770 inclusive, 9772 through 9781 inclusive, and 9998.

**(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Reason**

This AD was prompted by reports of multiple in-flight departures of the aft belly fairing access panels. We are issuing this AD to address in-flight departures of the aft belly fairing access panels, which could result in runway hazards or hazards to people on the ground.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Access Panel Modification**

Within 15 months after the effective date of this AD, modify the aft belly fairing access panels by replacing the attachments, in accordance with the Accomplishment Instructions of the applicable service information identified in paragraphs (g)(1) and (g)(2) of this AD.

(1) For Model BD-700-1A10 airplanes: Bombardier Service Bulletin 700-53-050, or 700-53-6008, both Revision 01, both dated December 16, 2016.

(2) For Model BD-700-1A11 airplanes: Bombardier Service Bulletin 700-1A11-53-025, or 700-53-5009, both Revision 01, both dated December 16, 2016.

**(h) Credit for Previous Actions**

(1) This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the applicable service information identified in paragraphs (h)(1)(i) through (h)(1)(iv) of this AD.

(i) Bombardier Service Bulletin 700-1A11-53-025, dated July 14, 2016.

(ii) Bombardier Service Bulletin 700-53-050, dated July 14, 2016.

(iii) Bombardier Service Bulletin 700-53-5009, dated July 14, 2016.

(iv) Bombardier Service Bulletin 700-53-6008, dated July 14, 2016.

(2) Incorporation of Bombardier Service Request for Product Support Action 124026 on an airplane prior to the effective date of this AD meets the intent of paragraph (g) of this AD for that airplane.

**(i) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(j) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2017-31, dated September 22, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0546.

(2) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7330; fax 516-794-5531; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (k)(3) and (k)(4) of this AD.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 700-53-050, Revision 01, dated December 16, 2016.

(ii) Bombardier Service Bulletin 700-53-5009, Revision 01, dated December 16, 2016.

(iii) Bombardier Service Bulletin 700-1A11-53-025, Revision 01, dated December 16, 2016.

(iv) Bombardier Service Bulletin 700-53-6008, Revision 01, dated December 16, 2016.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on October 2, 2018.

Michael Kaszycki,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-21-05 Airbus SAS:** Amendment 39-19463; Docket No. FAA-2018-0358; Product Identifier 2017-NM-142-AD.

**(a) Effective Date**

This AD is effective November 19, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Airbus SAS Model A319-131, A319-132, A319-133, A320-231, A320-232, A320-233, A321-131, A321-231, and A321-232 airplanes, certificated in any category, if modified by Bombardier Short Brothers, PLC Supplemental Type Certificate (STC) ST03076NY.

**(d) Subject**

Air Transport Association (ATA) of America Code 71, Powerplant.

**(e) Reason**

This AD was prompted by reports of fan cowl door (FCD) losses during takeoff. We are issuing this AD to prevent in-flight loss of an FCD, which could result in damage to the airplane and injury to persons on the ground.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Modification and Re-Identification of FCDs**

Within 18 months after the effective date of this AD: Do the modification and re-identification specified in paragraphs (g)(1) and (g)(2) of this AD.

(1) Modify each left-hand (LH) and right-hand (RH) FCD having a part number listed as “Old Part Number” in table 1 to paragraphs (g), (h), and (l) of this AD, in accordance with the Accomplishment Instructions of Bombardier Short Brothers Service Bulletin V25MFC-71-1003, dated September 28, 2016.

(2) Re-identify each modified FCD with the part number listed as “New Part Number” in table 1 to paragraphs (g), (h), and (l) of this AD, in accordance with the Accomplishment Instructions of Bombardier Short Brothers Service Bulletin V25MFC-71-1003, dated September 28, 2016.

**Table 1 to paragraphs (g), (h), and (l) of this AD – Monolithic FCD part number change**

<b>FCD Position</b>	<b>Old Part Number</b>	<b>New Part Number</b>
LH	745B4000-501	745B4000-507
	745B4000-503	745B4000-509
	745B4000-505	745B4000-511
RH	745B4000-502	745B4000-508
	745B4000-504	745B4000-510
	745B4000-506	745B4000-512

**(h) Optional Compliance by Replacement or Installation**

(1) Replacement of the FCDs having a part number listed as “Old Part Number” in table 1 to paragraphs (g), (h), and (l) of this AD, with the FCDs having the corresponding part number listed as “New Part Number” in table 1 to paragraphs (g), (h), and (l) of this AD, is acceptable for compliance with the requirements of paragraph (g) of this AD.

(2) Installation on an engine of a LH and RH FCD having a part number approved after the effective date of this AD is acceptable for compliance with the requirements of paragraph (g) of this AD for that engine only, provided the conditions specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this AD are met.

(i) The part number is approved using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or Bombardier Short Brothers, PLC's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(ii) The installation is accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or EASA; or Bombardier Short Brothers, PLC's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(i) Placard Installation**

For airplanes on which Airbus SAS modification 157718 has not been embodied in production: Within 18 months after the effective date of this AD, install a placard that specifies the FCD keys stowage location in the flight deck on the box located at the bottom of the 120VU panel, or at the bottom of the coat stowage, as applicable to airplane configuration, using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or EASA; or Bombardier Short Brothers, PLC's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(j) Missing FCD Keys or Placard**

Flights with one or both FCD keys missing from the stowage location in the flight deck, or with the placard (that specifies the FCD keys stowage location) missing or damaged, are permitted for a period not to exceed 10 calendar days from the date of discovery.

**(k) Alternate Location of FCD Keys and Placard**

As an option to paragraph (i) of this AD, an alternate location for the key stowage in the flight deck and installation of a placard for identification of that stowage location are permitted as specified

in the operator's FAA-accepted maintenance or inspection program, provided the keys can be retrieved from that flight deck location when needed and the placard installation is done within 18 months after the effective date of this AD.

### **(l) Parts Installation Prohibition**

No person may install on any airplane an FCD with a part number identified as “Old Part Number” in table 1 to paragraphs (g), (h), and (l) of this AD, after the time specified in paragraph (l)(1) or (l)(2) of this AD, as applicable.

(1) For any airplane with an installed FCD having a part number identified as “Old Part Number” in table 1 to paragraphs (g), (h), and (l) of this AD: After modification of that airplane as required by paragraph (g) of this AD or as specified in paragraph (h) of this AD.

(2) For any airplane without an installed FCD having a part number identified as “Old Part Number” in table 1 to paragraphs (g), (h), and (l) of this AD: After the effective date of this AD.

### **(m) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Section, send it to the attention of the person identified in paragraph (n)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or EASA; or Bombardier Short Brothers, PLC's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

### **(n) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0178, dated September 15, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0358.

(2) For more information about this AD, contact Sanjay Ralhan, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3223.

### **(o) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

- (i) Bombardier Short Brothers Service Bulletin V25MFC-71-1003, dated September 28, 2016.
- (ii) Reserved.

(3) For service information identified in this AD, contact Bombardier Short Brothers, PLC, Airworthiness, P.O. Box 241, Airport Road, Belfast, BT3 9DZ Northern Ireland; telephone

+44(0)2890-462469; fax +44(0)2890-468444; email [michael.mulholland@aero.bombardier.com](mailto:michael.mulholland@aero.bombardier.com);  
internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 20, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-21-07 Airbus SAS:** Amendment 39-19465; Docket No. FAA-2018-0498; Product Identifier 2018-NM-013-AD.

**(a) Effective Date**

This AD is effective November 19, 2018.

**(b) Affected ADs**

This AD affects AD 2014-25-52, Amendment 39-18066 (80 FR 3161, January 22, 2015) (“AD 2014-25-52”); and AD 2016-25-30, Amendment 39-18756, (82 FR 1175, January 5, 2017) (“AD 2016-25-30”).

**(c) Applicability**

This AD applies to the airplanes, certificated in any category, identified in paragraphs (c)(1), (c)(2), and (c)(3) of this AD; all manufacturer serial numbers; equipped with flight control primary computers (FCPCs) having software standard P13/M22 (hardware 2K2), P14/M23 (hardware 2K1), or M23 (hardware 2K0), or earlier standard.

- (1) Airbus Model A330-223F and -243F airplanes.
- (2) Airbus Model A330-201, -202, -203, -223, and -243 airplanes.
- (3) Airbus Model A330-301, -302, -303, -321, -322, -323, -341, -342, and -343 airplanes.

Note 1 to paragraph (c) of this AD: The software standards specified in paragraph (c) of this AD correspond, respectively, to part number (P/N) LA2K2B100DG0000, P/N LA2K1A100DF0000, and P/N LA2K01500AF0000. All affected airplanes should be equipped with this software, as required by AD 2016-25-30.

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight Controls.

**(e) Reason**

This AD was prompted by reports of Angle of Attack (AOA) blockages not detected by upgraded FCPC software standards. We are issuing this AD to prevent Alpha protection activation due to blocked AOA probes, which could result in reduced controllability of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Definitions of Groups**

Group 1 airplanes are those in pre-mod 206412, pre-mod 206413, or pre-mod 206414 configuration, as applicable. Group 2 airplanes are those in post-mod (206412, 206413, or 206414, as applicable) configuration.

**(h) Upgrade Flight Control Primary Computer Software**

For Group 1 airplanes: Within 12 months after the effective date of this AD: Upgrade (by modification or replacement, as applicable) the three FCPCs, as specified in table 1 to paragraphs (h) and (k) of this AD, in accordance with the Accomplishment Instructions of the applicable service information specified in table 1 to paragraphs (h) and (k) of this AD.

**Table 1 to paragraphs (h) and (k) of this AD – Software Standard Updates**

<b>Software Standard to be Installed</b>	<b>FCPC Hardware Standard</b>	<b>Applicable Service Bulletin</b>
P15/M24	2K2	Airbus Service Bulletin A330-27-3222, dated February 16, 2017
P16/M25	2K1	Airbus Service Bulletin A330-27-3223, dated June 6, 2017
M25	2K0	Airbus Service Bulletin A330-27-3223, dated June 6, 2017

**(i) Terminating Action for Certain Requirements of AD 2014-25-52**

For airplanes with an AOA configuration as identified in figure 1 to paragraph (i) of this AD, or as identified in paragraph (m)(2) of AD 2016-12-15, Amendment 39-18564 (81 FR 40160, June 21, 2016) (“AD 2016-12-15”), as applicable: Accomplishing the upgrade required by paragraph (h) of this AD terminates the requirements of paragraph (g) of AD 2014-25-52, and the airplane flight manual (AFM) procedure required by paragraph (g) of AD 2014-25-52 may be removed from the AFM.

**Figure 1 to paragraph (i) of this AD – AOA Sensor Installation Configurations**

<b>AOA Sensor P/N – Captain</b>	<b>AOA Sensor P/N - First Officer</b>	<b>AOA Sensor P/N - Standby</b>
C16291AB or C16291AA	C16291AB or C16291AA	C16291AB, C16291AA, 0861ED or 0861ED2

Note: For AOA sensor P/N C16291AA, paragraph (j) of AD 2016-12-15 requires detailed inspections and a functional heating test of that sensor.

**(j) Terminating Action for Certain Requirements of AD 2016-25-30**

Accomplishment of the actions required by paragraph (h) of this AD terminates the requirements of paragraph (g) of AD 2016-25-30 for that airplane.

**(k) Parts Installation Prohibition**

Installation of any software or hardware of a version earlier than the one listed in table 1 to paragraphs (h) and (k) of this AD is prohibited, as required by paragraphs (k)(1) and (k)(2) of this AD, as applicable.

(1) For Group 1 airplanes: After modification of an airplane as required by paragraph (h) of this AD.

(2) For Group 2 airplanes: As of the effective date of this AD.

**(l) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Branch, send it to the attention of the person identified in paragraph (m)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(3) Required for Compliance (RC): If any service information contains procedures or tests that are identified as RC, those procedures and tests must be done to comply with this AD; any procedures or tests that are not identified as RC are recommended. Those procedures and tests that are not identified as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the procedures and tests identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to procedures or tests identified as RC require approval of an AMOC.

**(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0246R1, dated April 6, 2018, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0498.

(2) For more information about this AD, contact Vladimir Ulyanov, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3229.

**(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Airbus Service Bulletin A330-27-3222, dated February 16, 2017.

(ii) Airbus Service Bulletin A330-27-3223, dated June 6, 2017.

(3) For service information identified in this AD, contact Airbus SAS, Airworthiness Office–EAL, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com); internet <http://www.airbus.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 23, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-21-08 The Boeing Company:** Amendment 39-19466; Docket No. FAA-2018-0415; Product 2017-NM-149-AD.

**(a) Effective Date**

This AD is effective November 20, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

(1) This AD applies to all The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, certificated in any category.

(2) Installation of Supplemental Type Certificate (STC) ST01219SE does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01219SE is installed, a “change in product” alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

**(d) Subject**

Air Transport Association (ATA) of America Code 53; Fuselage.

**(e) Unsafe Condition**

This AD was prompted by the results of a fleet survey that revealed cracking in the bulkhead frame web at a certain body station. We are issuing this AD to address cracking in the station (STA) 259.5 bulkhead frame web from the first stiffener above stringers S-10 to S-13. Such cracking could result in reduced structural integrity of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions for Group 1 Airplanes**

For airplanes identified as Group 1 in Boeing Alert Requirements Bulletin 737-53A1369 RB, dated October 12, 2017: Within 120 days after the effective date of this AD, inspect the airplane and do all applicable on-condition actions using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

**(h) Required Actions for Group 2 and 3 Airplanes**

For airplanes identified as Group 2 and 3 in Boeing Alert Requirements Bulletin 737-53A1369 RB, dated October 12, 2017: Except as required by paragraph (i) of this AD, at the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-53A1369 RB, dated October 12, 2017, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 737-53A1369 RB, dated October 12, 2017.

Note 1 to paragraph (h) of this AD: Guidance for accomplishing the actions required by this AD is included in Boeing Alert Service Bulletin 737-53A1369, dated October 12, 2017, which is referred to in Boeing Alert Requirements Bulletin 737-53A1369 RB, dated October 12, 2017.

**(i) Exceptions to Service Information Specifications**

(1) For purposes of determining compliance with the requirements of this AD: Where Boeing Alert Requirements Bulletin 737-53A1369 RB, dated October 12, 2017, uses the phrase “the original issue date of Requirements Bulletin 737-53A1369,” this AD requires using the effective date of this AD.

(2) Where Boeing Alert Requirements Bulletin 737-53A1369 RB, dated October 12, 2017, specifies contacting Boeing, this AD requires repair using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Los Angeles ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k) of this AD. Information may be emailed to: 9-ANM-LAACO-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(k) Related Information**

For more information about this AD, contact George Garrido, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5232; fax: 562-627-5210; email: george.garrido@faa.gov.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Requirements Bulletin 737-53A1369 RB, dated October 12, 2017.

(ii) Reserved.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on September 20, 2018.

John P. Piccola,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**FAA**  
**Aviation Safety**

## **AIRWORTHINESS DIRECTIVE**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

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**2018-21-09 ATR-GIE Avions de Transport Régional:** Amendment 39-19467; Docket No. FAA-2018-0494; Product Identifier 2017-NM-182-AD.

**(a) Effective Date**

This AD is effective November 20, 2018.

**(b) Affected ADs**

This AD replaces AD 2006-07-26, Amendment 39-14553 (71 FR 18205, April 11, 2006) (“AD 2006-07-26”).

**(c) Applicability**

This AD applies to ATR-GIE Avions de Transport Régional Model ATR42-200, -300, -320, and -500 airplanes, certificated in any category, all manufacturer serial numbers.

**(d) Subject**

Air Transport Association (ATA) of America Code 57, Wings.

**(e) Reason**

This AD was prompted by reports of cracking on the left-hand and right-hand wings, of the outer wing box upper skin and upper rib feet. We are issuing this AD to address discrepancies (e.g., cracking, loose/sheared fasteners, distortion) on the left-hand and right-hand wings, of the outer wing box upper skin and upper rib feet, which could result in reduced structural integrity of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Repetitive Inspections**

Within the initial compliance time specified in table 1 to paragraph (g) of this AD, and thereafter at intervals not to exceed 48 months or 6,000 flight cycles, whichever occurs first: Do a detailed visual inspection for discrepancies on the left-hand and right-hand wings, of the outer wing box upper skin and upper rib feet, between rib 24 and rib 29. Do the inspection in accordance with the Accomplishment Instructions of ATR Service Bulletin ATR42-57-0074, Revision 01, dated January 8, 2018.

**Table 1 to paragraph (g) of this  
AD – Initial Inspection**

<b>Compliance Time</b> (whichever occurs later, A or B)	
<b>A</b>	Within 48 months or 6,000 flight cycles, whichever occurs first since the airplane's first flight.
<b>B</b>	Within 12 months after the effective date of this AD.

### **(h) Corrective Actions**

If any discrepancy is found during any inspection required by paragraph (g) of this AD: Before further flight, repair using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or ATR-GIE Avions de Transport Régional's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature. Do the repair within the compliance time specified in the approved repair method.

### **(i) Reporting**

At the applicable time specified in paragraph (i)(1) or (i)(2) of this AD: Report all findings (both positive and negative) of the inspections required by paragraph (g) of this AD to ATR-GIE Avions de Transport Régional, using the information in ATR Service Bulletin ATR42-57-0074, Revision 01, dated January 8, 2018.

(1) If the inspection was done on or after the effective date of this AD: Submit the report within 30 days after performing the inspection.

(2) If the inspection was done before the effective date of this AD: Submit the report within 30 days after the effective date of this AD.

### **(j) Repair Is Not Terminating Action**

Unless the repair instructions specify otherwise, repair of an airplane as required by paragraph (h) of this AD is not considered terminating action for the repetitive detailed visual inspections required by paragraph (g) of this AD.

### **(k) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraphs (g) and (i) of this AD, if those actions were performed before the effective date of this AD using ATR Service Bulletin ATR42-57-0074, dated October 19, 2017.

### **(l) Paperwork Reduction Act Burden Statement**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at:

800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

**(m) Other FAA AD Provisions**

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Section, send it to the attention of the person identified in paragraph (n)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: As of the effective date of this AD, for any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or EASA; or ATR-GIE Avions de Transport Régional's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(n) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0244, dated December 7, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0494.

(2) For more information about this AD, contact Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3220.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (o)(3) and (o)(4) of this AD.

**(o) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) ATR Service Bulletin ATR42-57-0074, Revision 01, dated January 8, 2018.

(ii) Reserved.

(3) For service information identified in this AD, contact ATR-GIE Avions de Transport Régional, 1 Allée Pierre Nadot, 31712 Blagnac Cedex, France; telephone +33 (0) 5 62 21 62 21; fax +33 (0) 5 62 21 67 18; email [; internet <http://www.atr-aircraft.com>.](mailto:aircraft.com)

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on October 2, 2018.  
Michael Kaszycki,

2018-21-09 4

Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-22-03 Bombardier, Inc.:** Amendment 39-19476; Docket No. FAA-2018-0160; Product Identifier 2017-NM-139-AD.

**(a) Effective Date**

This AD is effective November 28, 2018.

**(b) Affected ADs**

This AD replaces AD 2016-24-03, Amendment 39-18720 (81 FR 88623, December 8, 2016) (“AD 2016-24-03”).

**(c) Applicability**

This AD applies to Bombardier, Inc., Model DHC-8-400, -401 and -402 airplanes, certificated in any category, serial numbers 4001 and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 55, Stabilizers.

**(e) Reason**

This AD was prompted by reports of cracked and corroded barrel nuts found at the mid-spar location of the horizontal-stabilizer-to-vertical-stabilizer attachment joint, and the issuance of new service information that includes a terminal modification. We are issuing this AD to address cracked and corroded barrel nuts, which could compromise the structural integrity of the vertical-stabilizer attachment joints and lead to loss of control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Retained Detailed Inspection of Barrel Nuts for Cracks and Corrosion, With No Changes**

This paragraph restates the requirements of paragraphs (g)(1) and (g)(2) of AD 2016-24-03, with no changes.

(1) For airplanes that have accumulated 5,400 flight hours or more, or have been in service 32 months or more since the date of issuance of the original certificate of airworthiness or the date of issuance of the original export certificate of airworthiness, as of January 12, 2017 (the effective date of AD 2016-24-03): Within 600 flight hours or 4 months, whichever occurs first after January 12, 2017, do a detailed visual inspection for signs of cracks and corrosion of the barrel nut and cradle, in accordance with paragraph 3.B., “Procedure,” of the Accomplishment Instructions of Bombardier Alert Service Bulletin A84-55-04, Revision C, dated May 3, 2016.

(2) For airplanes that have less than 5,400 flight hours, and have been in-service for less than 32 months since the date of issuance of the original certificate of airworthiness or the date of issuance of the original export certificate of airworthiness, as of January 12, 2017: Before the accumulation of 6,000 total flight hours or 36 months since the date of issuance of the original certificate of airworthiness or the date of issuance of the original export certificate of airworthiness, whichever occurs first, do a detailed visual inspection of the barrel nut for signs of cracks and corrosion of the barrel nut and cradle, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Alert Service Bulletin A84-55-04, Revision C, dated May 3, 2016.

**(h) Retained Corrective Actions, Detailed Inspection, and Repetitive Inspections, With New Service Information, Reference to Terminating Action, and Reference to Corrective Actions**

This paragraph restates the requirements of paragraph (h) of AD 2016-24-03, with new service information and terminating action. Depending on the findings of any inspection required by paragraphs (g) and (j) of this AD, do the applicable actions in paragraphs (h)(1), (h)(2), (h)(3), and (h)(4) of this AD. Accomplishment of the actions required by paragraphs (l) and (m) of this AD, as applicable, terminates the requirements of this paragraph.

(1) If any barrel nut or cradle is found cracked or broken, before further flight, replace the barrel nut and associated hardware, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-55-08, Revision A, dated August 2, 2017.

(i) Concurrently with the replacement of any barrel nut, do a detailed inspection for corrosion and damage of the bore of the fitting, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-55-08, Revision A, dated August 2, 2017, and, before further flight, repair all corrosion and damage, in accordance with Bombardier Repair Drawing (RD) 8/4-55-1143, Issue 1, dated May 21, 2015; or Bombardier RD 8/4-55-1143, Issue 2, dated May 25, 2015. If the bore of the fitting cannot be repaired in accordance with Bombardier RD 8/4-55-1143, Issue 1, dated May 21, 2015; or Bombardier RD 8/4-55-1143, Issue 2, dated May 25, 2015; accomplish corrective actions in accordance with the procedures specified in paragraph (q)(2) of this AD. As of the effective date of this AD, use Bombardier RD 8/4-55-1143, Issue 2, dated May 25, 2015, for the repair required by this paragraph.

(ii) Within 600 flight hours or 4 months, whichever occurs first, after the replacement of a cracked barrel nut, replace the remaining barrel nuts and their associated hardware at the horizontal-stabilizer-to-vertical-stabilizer attachment joints, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-55-08, Revision A, dated August 2, 2017.

(2) If any corrosion is found on any barrel nut on the front or rear-spar joints, before further flight, replace the barrel nut in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-55-08, Revision A, dated August 2, 2017, or accomplish corrective actions in accordance with the procedures specified in paragraph (q)(2) of this AD.

(3) If any corrosion above level 1, as defined in Bombardier Alert Service Bulletin A84-55-04, Revision C, dated May 3, 2016, is found on a barrel nut at the mid-spar joint, before further flight, replace the barrel nut and accomplish corrective actions in accordance with the procedures specified in paragraph (q)(2) of this AD.

(4) If all corrosion found is at level 1 or below, as defined in Bombardier Alert Service Bulletin A84-55-04, Revision C, dated May 3, 2016, on a barrel nut at the mid-spar joint, repeat the inspection specified in paragraph (g) of this AD at intervals not to exceed 600 flight hours or 4 months, whichever occurs first, until completion of the actions required by paragraph (k) of this AD.

**(i) Retained Preload Indicating (PLI) Washer Check, With New Terminating Action**

This paragraph restates the requirements of paragraph (i) of AD 2016-24-03, with new terminating action. For airplanes with PLI washers installed at the front and rear-spar joints, before further flight after accomplishing any inspection required by paragraph (g) of this AD and all applicable corrective actions required by paragraph (h) of this AD, check the bolt preload, and do all applicable corrective actions, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Alert Service Bulletin A84-55-04, Revision C, dated May 3, 2016. Do all applicable corrective actions before further flight. Accomplishment of the actions required by paragraphs (l) and (m) of this AD, as applicable, terminates the requirements of this paragraph.

**(j) Retained Repetitive Inspection Interval, With New Terminating Action**

This paragraph restates the requirements of paragraph (j) of AD 2016-24-03, with new terminating action. Repeat the inspection and preload check required by paragraphs (g) and (i) of this AD at intervals not to exceed 3,600 flight hours or 18 months, whichever occurs first, except as provided by paragraph (k) of this AD. Accomplishment of the actions required by paragraphs (l) and (m) of this AD, as applicable, terminates the requirements of this paragraph.

**(k) Retained Optional Barrel Nut Replacement, With New Service Information**

This paragraph restates the provisions of paragraph (k) of AD 2016-24-03, with new service information. Inspection and replacement of all barrel nuts at the horizontal-stabilizer-to-vertical-stabilizer attachment joints, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-55-08, Revision A, dated August 2, 2017, extends the next inspection required by paragraph (j) of this AD to within 6,000 flight hours or 36 months, whichever occurs first, after accomplishing the replacement.

**(l) New Requirement of This AD: Sealing Disk Installation**

Within 8,000 flight hours or 48 months, whichever occurs first, after the effective date of this AD, install a sealing disk at the mid-spar location of the vertical stabilizer in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-55-06, dated January 31, 2017. Accomplishment of the actions required by paragraphs (l) and (m) of this AD, as applicable, terminates the requirements of paragraphs (h), (i), and (j) of this AD.

**(m) New Requirement of This AD: Replacement of DSC228 Series Barrel Nuts**

For Bombardier, Inc., Model DHC-8-400, -401 and -402 airplanes, serial numbers 4001 through 4524 inclusive: Within 8,000 flight hours or 48 months, whichever occurs first, after the effective date of this AD, replace all DSC228 series barrel nuts at the horizontal-stabilizer-to-vertical-stabilizer attachment joints with B0203073 series barrel nuts in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-55-08, Revision A, dated August 2, 2017. Accomplishment of the actions required by paragraphs (l) and (m) of this AD, as applicable, terminates the requirements of paragraphs (h), (i), and (j) of this AD.

**(n) Parts Installation Prohibition**

After modification of an airplane as required by paragraphs (l) and (m) of this AD, no person may install a DSC228 series barrel nut at the horizontal-stabilizer-to-vertical-stabilizer attachment joint on the modified airplane.

**(o) Terminating Actions for Paragraphs (h), (i), and (j) of This AD**

Accomplishment of the actions required by paragraphs (l) and (m) of this AD, as applicable, terminates the requirements of paragraphs (h), (i), and (j) of this AD.

**(p) Credit for Previous Actions**

(1) This paragraph provides credit for actions required by paragraphs (g)(1), (g)(2), (h)(1), (h)(1)(i), (h)(1)(ii), (h)(2), (h)(3), (h)(4), (i), and (k) of this AD, if those actions were performed before the effective date of this AD using the service information identified in paragraphs (p)(1)(i) through (p)(1)(iii) of this AD.

(i) Bombardier Alert Service Bulletin A84-55-04, dated May 21, 2015, which is not incorporated by reference in this AD.

(ii) Bombardier Alert Service Bulletin A84-55-04, Revision A, dated June 2, 2015, which is not incorporated by reference in this AD.

(iii) Bombardier Alert Service Bulletin A84-55-04, Revision B, dated July 30, 2015, which is not incorporated by reference in this AD.

(2) This paragraph provides credit for actions required by paragraphs (h)(1), (h)(1)(i), (h)(1)(ii), (h)(2), and (k) of this AD, if those actions were performed before the effective date of this AD using the service information identified in paragraphs (p)(2)(i) and (p)(2)(ii) of this AD.

(i) Bombardier Service Bulletin 84-55-08, dated January 27, 2017, which is not incorporated by reference in this AD.

(ii) Bombardier Alert Service Bulletin A84-55-04, Revision C, dated May 3, 2016, which was incorporated by reference in AD 2016-24-03.

**(q) Other FAA AD Provisions**

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531.

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(ii) AMOCs approved previously for AD 2016-24-03 are approved as AMOCs for the corresponding provisions of this AD.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(r) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2015-13R1, dated June 26, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0160.

(2) For more information about this AD, contact Aziz Ahmed, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7329; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (s)(5) and (s)(6) of this AD.

**(s) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(3) The following service information was approved for IBR on November 28, 2018.

(i) Bombardier Repair Drawing (RD) 8/4-55-1143, Issue 2, dated May 25, 2015.

(ii) Bombardier Service Bulletin 84-55-06, dated January 31, 2017.

(iii) Bombardier Service Bulletin 84-55-08, Revision A, dated August 2, 2017.

(4) The following service information was approved for IBR on January 12, 2017 (81 FR 88623, December 8, 2016).

(i) Bombardier Alert Service Bulletin A84-55-04, Revision C, dated May 3, 2016.

(ii) Reserved.

(5) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); internet <http://www.bombardier.com>.

(6) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on October 12, 2018.

Michael Kaszycki,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.



**2018-22-04 The Boeing Company:** Amendment 39-19477; Docket No. FAA-2018-0078; Product Identifier 2017-NM-107-AD.

**(a) Effective Date**

This AD is effective November 28, 2018.

**(b) Affected ADs**

This AD replaces AD 2017-01-02, Amendment 39-18769 (82 FR 4775, January 17, 2017) (“AD 2017-01-02”).

**(c) Applicability**

This AD applies to all The Boeing Company Model 787 series airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight control systems.

**(e) Unsafe Condition**

This AD was prompted by a report indicating that some inboard and outboard trailing edge flap rotary actuators may have been assembled with an incorrect no-back brake rotor-stator stack sequence during manufacturing. We are issuing this AD to detect and replace incorrectly assembled rotary actuators, which could cause accelerated unit wear that will eventually reduce braking performance. This degradation could lead to loss of no-back brake function and reduced controllability of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Retained Inspection and Other Actions**

For The Boeing Company Model 787-8 and 787-9 airplanes identified in Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 001, dated November 3, 2015: Within 60 months after February 21, 2017 (the effective date of AD 2017-01-02), do an inspection of the inboard and outboard trailing edge flap rotary actuator for any discrepant rotary actuator, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 001, dated November 3, 2015; or Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 003, dated July 28, 2017. If any discrepant rotary actuator is found, within 60 months after February 21, 2017, do the actions specified in paragraph (g)(1) or (g)(2) of this AD, in accordance with the

Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 001, dated November 3, 2015; or Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 003, dated July 28, 2017. After the effective date of this AD only Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 003, dated July 28, 2017, may be used.

(1) Replace the discrepant rotary actuator.

(2) Check the maintenance records to determine the flight cycles of each discrepant rotary actuator and, within 60 months after February 21, 2017 (the effective date of AD 2017-01-02), do all applicable related investigative and corrective actions.

#### **(h) New Requirements: Inspection, Related Investigative and Corrective Actions**

For airplanes not identified in Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 001, dated November 3, 2015, which have an Original Certificate of Airworthiness or Export Certificate of Airworthiness with a date on or before the effective date of this AD: Within 60 months after the effective date of this AD, do an inspection of the inboard and outboard trailing edge flap rotary actuator for any discrepant rotary actuator, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 003, dated July 28, 2017. If any discrepant rotary actuator is found, within 60 months after the effective date of this AD, do the actions specified in paragraph (h)(1) or (h)(2) of this AD, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 003, dated July 28, 2017.

(1) Replace the discrepant rotary actuator.

(2) Check the maintenance records to determine the flight cycles of each discrepant rotary actuator and, within 60 months after the effective date of this AD, do all applicable related investigative and corrective actions.

#### **(i) Parts Installation Limitation**

As of the effective date of this AD, no person may install, on any airplane, a rotary actuator with a part number and serial number identified in Appendix A of Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 003, dated July 28, 2017, unless the actuator has been permanently marked in accordance with Task 2 of Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 003, dated July 28, 2017, with "B787-81205-SB270032-00 INCORPORATED." Rotary actuators marked with "SB P689A0001-27-01 INCORPORATED," "SB P690A0001-27-01 INCORPORATED," "SB P700A0001-27-01 INCORPORATED," or "SB CB10130-27-01 INCORPORATED" are also acceptable.

#### **(j) Credit for Previous Actions**

(1) This paragraph provides credit for the actions specified in paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 002, dated November 3, 2016.

(2) This paragraph provides credit for the actions specified in paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 001, dated November 3, 2015, or Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 002, dated November 3, 2016.

#### **(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If

sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously for AD 2017-01-02 are approved as AMOCs for the corresponding provisions of this AD.

(5) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(5)(i) and (k)(5)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

#### **(l) Related Information**

(1) For more information about this AD, contact Douglas Tsuji, Senior Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3548; email: douglas.tsuji@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(5) and (m)(6) of this AD.

#### **(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on November 28, 2018.

(i) Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 003, dated July 28, 2017.

(ii) Reserved.

(4) The following service information was approved for IBR on February 21, 2017 (82 FR 4775, January 17, 2017).

(i) Boeing Alert Service Bulletin B787-81205-SB270032-00, Issue 001, dated November 3, 2015.

(ii) Reserved.

(5) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; internet <https://www.myboeingfleet.com>.

(6) You may view this service information at FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on October 12, 2018.

Michael Kaszycki,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.